TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

A Penton Publication

November, 1950

Volume 15—Number 11

Copyright 1950 by Equipment Digest Publishing Co.

CHECK AND PASS ALONG

✓	NAME	See No.

PUBLIC LIBRARY
NOV 2 1950
DETROIT

Use Inquiry Slips—Pages 8 and 72

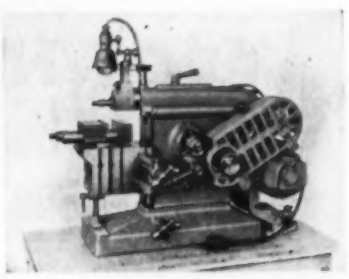
EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

CYLINDER SPEED CONTROL
features micrometer graduations

Available in ¼, ⅜ and ½-in. sizes, Flo-Set valve ultizes fine adjustment for precision speed control of low pressure cylinders. Valve is suitable for air, water or oil control with maximum pressure to 250 psi and maximum temperature to 250° F. It can be used in any position and permits adjusting flow from zero to full size opening with one revolution of adjustment sleeve. Graduations are in hundredths of a revolution with each hundredth representing 1/100 of pipe area. All metal parts are made of aluminum except for stainless steel springs and seals and poppets of molded synthetic. Made by **Hanna Engineering Works,** 1766 Elston Ave., Chicago 22, Ill.

▲ For more details circle **NED-7900** on enclosed inquiry slip ▲

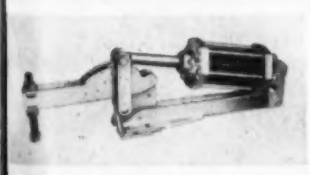
PRECISION METAL SHAPER
7-in. stroke model for small jobs



Suitable for all-around tool and die or continuous-duty operations within its range, this 7-in. precision metal shaper has four speeds of 40, 70, 115 and 180 strokes per minute. Extreme length of stroke is 7¾-in., and table has 9½-in. horizontal travel and 4¼-in. vertical travel. Feed ranges are from 0.003 to 0.018-in. Adjustable tool head is graduated from 0 to 90 degrees, has vertical travel of 3¼ in. and vise has maximum opening of 4¼ in. Portable cabinet, rotary table, index centers, keyway cutting tools and angle plate can be obtained as accessory equipment. Made by **Rockwell Mfg. Co.,** Delta Power Tool Div., 614 E. Vienna Ave., Milwaukee 1, Wis.

▲ For more details circle **NED-7901** on enclosed inquiry slip ▲

AIR-OPERATED CLAMPS
spindle moves along full length



Usable in single installations where operator fatigue is factor and in multiple installations controlled by single valve or where sequence valves would operate certain clamps at predetermined intervals, these air-operated clamps are additions to Knu-Vise line. Models AO-200 and AO-1200 have clamping forces at end of channel-shape toggle bar of 200 and 1200 lb, respectively. With spindle positioned close to base of each clamp, force is increased to 475 and 2875 lb, respectively. Maximum air pressure for either clamp is 85 psi. Double-acting units will not release work if air pressure fails. Restricting fittings control opening and closing speed of clamp and provide cushioning effect. Made by **Lapeer Mfg. Co.,** 3058 Davison Rd., Lapeer, Mich.

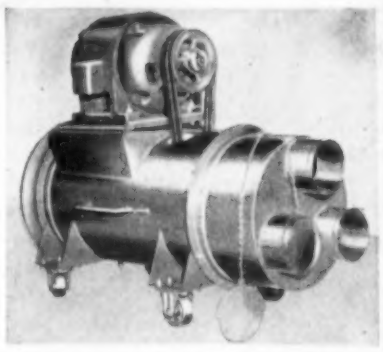
▲ For more details circle **NED-7902** on enclosed inquiry slip ▲

AUTOMATIC BARREL FILLER
operates under pressure or gravity

Capable of carrying hot or cold light and heavy liquids, improved model Penflex automatic barrel filler will handle both volatiles and crude viscous residues with equal efficiency. Overflow is prevented by incorporation of automatic check valve which operates when barrel is full. Made by **Pennsylvania Flexible Metallic Tubing Co.,** 7203 Powers Lane, Philadelphia 42, Pa.

▲ For more details circle **NED-7903** on enclosed inquiry slip ▲

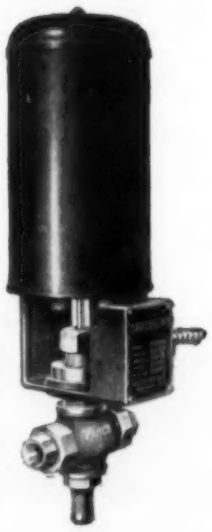
PORTABLE BLOWER
end assembly has three air outlets



Developed primarily to expel explosive fumes from gasoline tank cars and trucks before interior repair welding is done, this 12-in. vane-axial blower is compact, lightweight and flexible. Mounted on industrial-type swivel casters, it can be rolled easily from job to job. Shut-off gates allow use of one, two or three air outlets so that full air delivery can be concentrated in one large tank or on up to three small compartments. Each outlet delivers approximately 500 cfm through 15 ft of 5-in. hose with right-angle bend. End assemblies can be reversed to pull in air while welding is in progress. Unit can be equipped with built-in motor to suit power supply and air-delivery hose of any length. Made by **Hartzell Propeller Fan Co.,** Dept. G, 1025 Roosevelt Ave., Piqua, O.

▲ For more details circle **NED-7904** on enclosed inquiry slip ▲

HYDRAULIC MOTOR VALVE
suitable for open-and-shut control

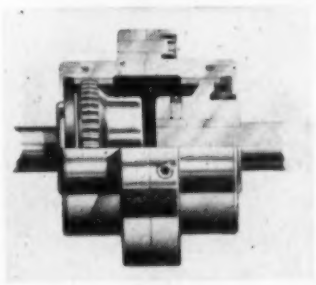


Designed for automatic operation by thermostats or pressurestats or by liquid level or flow controls, Sarcostat electro-hydraulic motor valve is of two-wire normally closed type intended for direct connection to 110-v 60-cycle current.

As shut-off valve in inaccessible location, it can be actuated also by pushbutton. Applications include handling steam, water, oil, gas and air as well as remote control of steam or water branch mains for space heating systems. Valve operator, actuated by hydraulic power, operates single-seated valves up to 1½ in. or double-seated valves up to 4 in. at 125 psi by direct thrust without pilots, gears or levers. Made by **Sarco Co.,** Dept. 24, 350 Fifth Ave., New York 1, N. Y.

▲ For more details circle **NED-7905** on enclosed inquiry slip ▲

FLEXIBLE COUPLING
for angular and offset misalignment

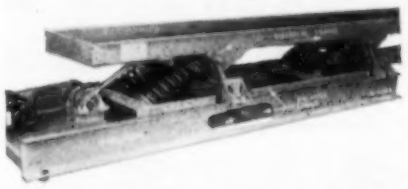


Misalignment capacity of this flexible coupling is based on dihedral tooth shape which provides for maximum tooth contact with minimum clearance or backlash. Under practical conditions of misalignment, driving area is at center of tooth where it is strongest. At maximum rated misalignment, driving area spreads over entire half-tooth. Positive oil seals retain lubricant and exclude dirt. Couplings are obtainable in standard sizes and capacities for handling misalignment up to 7 degrees while special models accommodate up to 12-degree misalignments. Seven sizes of couplings are available with maximum bores of 1⅝ to 5 in. with respective ratings of 12 to 350 hp at 100 rpm. Made by **Ajax Flexible Coupling Co.,** 142 English St., Westfield, N. Y.

▲ For more details circle **NED-7906** on enclosed inquiry slip ▲

VIBRATORY CONVEYOR
is natural frequency balanced type

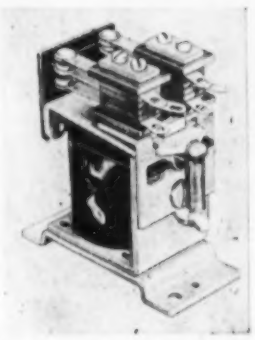
Designed for use where vibration transmitted to supporting structures is problem, this natural frequency vibrating conveyor is capable of handling practically any boxed or bulk material. Capacity is governed by trough width and depth. Troughs can be open or totally enclosed, and many operations such as heating, cooling or scalping can be performed with special troughs. Balance frame moving in direction opposite to that of conveyor trough cancels thrust caused by inertia of moving trough and prevents vibration from reaching mounting frame. Since unit will not creep, no anchor bolts are required, and it can be easily mounted or suspended. Made by **Stephens-Adamson Mfg. Co.,** 12 Ridgeway Ave., Aurora, Ill.



▲ For more details circle **NED-7907** on enclosed inquiry slip ▲

GENERAL PURPOSE RELAY
redesigned to withstand vibration

By adapting long frame and large coil bobbin, 97000 series relay offers high contact pressure and adequate coil power for those applications where unusual shock or vibration are encountered. It has same mounting space requirements and contact construction as 98000 series differing only in overall height which is ⅜-in. higher than original design. Made by **Essex Wire Corp.,** R-B-M Div., Hanna St., Logansport, Ind.



▲ For more details circle **NED-7908** on enclosed inquiry slip ▲

UNIVERSAL JOINTS
all parts are interchangeable

Having high load-carrying capacity and high static torque rating, these universal joints meet government specifications for aircraft and shipbuilding. Yokes are of heat-treated alloy steel with bearing surfaces and outside diameter precision ground for concentricity. Self-locking assembly ring and self-closing ball valve oiler are design features. Bearing pins and center bearing block are hardened and ground. Joints are available in full range of standard sizes, solid or bored to fit standard shafting. Made by **Boston Gear Works,** 69 Hayward St., Quincy 71, Mass.

▲ For more details circle **NED-7909** on enclosed inquiry slip ▲

STEAM CLEANER
offered in oil or gas fired styles

Illustrated model S steam cleaner has rated evaporative capacity of 260 gallons per hour. Water jacket contains 330 ft of heavy-duty ¾-in. pipe with 42-ft 'water wall' of tightly-coiled pipe located at point of greatest heat radiation. Stack temperature is approximately 440° F. Made by **Kelite Products, Inc.,** 130 Elmyra St., Los Angeles 54, Calif.

▲ For more details circle **NED-7910** on enclosed inquiry slip ▲

A *New* VALVAIR..

with HIGH TENSILE DIE-CAST BODY AT AN *Attractive Price!*

Two-way knob-operated Valvair air control valve with the new type die-cast body.

Preserving all the well-liked advantages of Valvair design: "O-U" type packer, parts interchangeable and replaceable, no metal seats, standard pipe area throughout valve, etc. For air, water and oil applications up to 175 p.s.i. and temperatures to 125° F. Sizes ¼" and ⅜" only in knob-operated model only, 2-way and 3-way (open end exhaust).

Write for prices and Bulletin "N".

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair 2-WAY 3-WAY 4-WAY

▲ For more details circle NED-7911 on enclosed inquiry slip ▲

Our Work Glove RECONDITIONING SERVICE Saves Up To 49% On Costs*...

● We pick up your worn, dirty gloves—wash, mend, reshape, pair, package and return them to you at important savings.

Don't scrap canvas, leather palm or other gloves, pads, etc. Let us give you the complete story on this new service.

*Actual experience of a large user who made a careful study.

Representatives in all industrial areas.

U.S. INDUSTRIAL GLOVE CORP.
9352 Roselawn Avenue,
Detroit 4, Michigan
Please send me complete details on your glove RECONDITIONING SERVICE.
Name_____
Address_____
City & State_____

U.S. INDUSTRIAL GLOVE CORP.

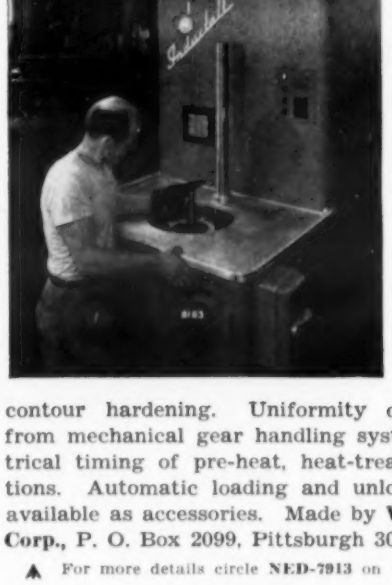
▲ For more details circle NED-7912 on enclosed inquiry slip ▲

A New Inquiry Record

During the past month, our Service Department received more inquiries on products advertised and described in NEW EQUIPMENT DIGEST than in any previous month in our history. Readers are finding answers to engineering, production, materials, maintenance and other critical problems which have been brought about by today's demands on industry. If, in looking through the pages of this issue, you notice products that serve your needs, we suggest that you use the handy self-mailing inquiry slip to secure complete information quickly and efficiently. This slip is found between pages 8 and 9 or 72 and 73. Full instructions regarding its use are given on the slip.

A. N. Gregg
EDITOR

GEAR HARDENING MACHINE is radio-frequency production type



Shafts and spur, cluster and integral-spindle gears can be heat treated at high production rates by Inductall gear hardening machine. Used with vacuum-tube radio-frequency generator, 10,000-cycle motor-generator set and other associated equipment, machine carries each gear through automatic cycle for either through or contour hardening. Uniformity of hardening results from mechanical gear handling system and precise electrical timing of pre-heat, heat-treat and quench operations. Automatic loading and unloading magazines are available as accessories. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

▲ For more details circle NED-7913 on enclosed inquiry slip ▲

DECALCOMANIAS are printed with fluorescent inks

Decalcomanias which are used as promotion media in form of posters, banners, streamers and indoor display signs have enhanced appearance when printed with fluorescent inks. Fluorescence of decals lasts over six months if not exposed to direct rays of sun and provides up to four times visibility of ordinary colors. Colors available are: Fire Orange, Neon Red, Arc Yellow, Saturn Yellow and Signal Green. Made by **Palm, Fechteler & Co.**, Dept. N, 220 W. 42nd St., New York, N. Y.

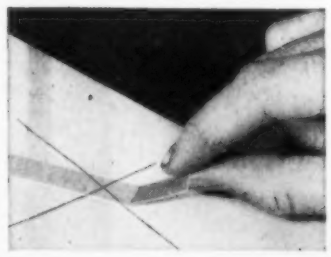
▲ For more details circle NED-7914 on enclosed inquiry slip ▲

HAVING TROUBLE WITH DECORATIVE COATINGS ON PLASTICS?

Logoquant is the answer when decorative coatings chip or peel from plastic parts. When properly applied, Logoquant will not chip or peel off any plastic and it withstands extreme humidity and outdoor weathering tests, too. This material is available in many colors and it may be brushed, silk screened or sprayed.

TRY THIS SIMPLE TEST

Scratch a deep "X" through your present coating. Apply "scotch" tape as shown, press down firmly and then remove tape with a jerk. A weak bond will be indicated by film adhering to the tape. We welcome this test with Logoquant.



WRITE TODAY for a free Logoquant-coated polystyrene chip to make any test you like.

See how Logoquant will solve your problem economically.

B BEE CHEMICAL COMPANY
13799 South Avenue "O" Chicago 33, Ill.

▲ For more details circle NED-7915 on enclosed inquiry slip ▲

Only DAVEN
Electronic Specialists For More Than a Generation

Makes Davohms, The Complete, Superior Line of Precision WIRE WOUND RESISTORS

- Accuracies to .05%
- All Temperature Coefficients
- All Types of Mountings
- Hermetically Sealed Types
- Manufactured to Famous Daven Standards of Precision
- One Recognized Source for All Of Your Requirements in Resistors

Write for detailed bulletin

THE DAVEN CO.
199 Central Avenue • Newark 4, N. J.

▲ For more details circle NED-7916 on enclosed inquiry slip ▲

BEST BUY BROWNING

FOR BETTER DRIVES

BROWNING Gripbelt Sheaves With Split Taper Bushings

Write for the name of the BROWNING distributor near you.

BROWNING MANUFACTURING COMPANY
INCORPORATED
MAYSVILLE, KENTUCKY

BEST BUY BROWNING

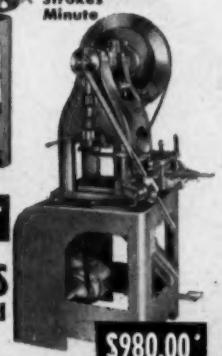
▲ For more details circle NED-7917 on enclosed inquiry slip ▲

3 *NEW* DIEBEL *HI-SPEED* AUTOMATIC PRESSES with Built-in Precision Single or Double Feeds

5 TON
180 to 475 Strokes per Minute

$585.00*

8 TON
110 to 350 Strokes Minute



$980.00*

12 TON
65 to 300 Strokes per Minute

$1340.00*

FEATURES
- Variable Speed Drives
- Positive Knockouts for Compound Dies
- Bronze Bearings Throughout Frame
- Clutch and Automatic Brake Release on 8 to 12 Ton Models

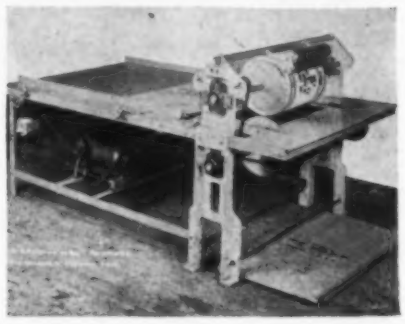
*Prices F.O.B. Chicago. Subject to change without notice. Motor and starter extra.

Write for Illustrative Literature

DI MACHINE CORP.
2701 Irving Park Road, Chicago 18

▲ For more details circle NED-7918 on enclosed inquiry slip ▲

PRINT YOUR OWN CONTAINERS OR MULTI-WALL BAGS AS YOU NEED THEM



•
•
•

Industrial's Auto Printer

is suitable for imprinting information, addresses, markings, or whatever you may require on your containers or multi-wall bags. It is capable of printing as many as 2400 units per hour. Eliminates hand stenciling.

This is just one of Industrial's coding and marking machines designed specifically for your needs to assure more efficient marking and movement of materials on production lines. Marking equipment is also available for conveyor line use.

Let us help you—send us your problem; we will do the rest.

Write for catalog today.

INDUSTRIAL MARKING EQUIPMENT CO.

Designers and Builders of Marking Equipment for Industry

Dept. NED, 7 East 48th St.
NEW YORK 17, N. Y.

▲ For more details circle **NED-7919** on enclosed inquiry slip ▲

reduce deadweight ...increase payloads WITH J&L

J&L STEEL

OTISCOLOY

HI-TENSILE STEEL

Reduce the weight of structures as much as 35% with J&L Otiscoloy—without the loss of strength.

J&L OTISCOLOY:—

- √ **Has twice the yield strength of mild steel**
- √ **Has greater fatigue resistance than mild steel**
- √ **Is resistant to abrasion**
- √ **Has atmospheric corrosion resistance 6 times better than carbon steel**

Otiscoloy can be formed hot or cold, welded, forged, flame-cut and otherwise worked by standard methods. Here is a modern steel that is worth your investigation. For further information about Otiscoloy, write for your copy of "Otiscoloy—High-Tensile Steel."

JONES & LAUGHLIN STEEL CORPORATION
456 Jones & Laughlin Building, Pittsburgh 19, Pennsylvania

▲ For more details circle **NED-7920** on enclosed inquiry slip ▲

. . . for Water, Oil, Gasoline, Gases

Stackpole engineering has made far-reaching advances in non-compressible, non-warping low-friction seal rings for use between stationary and rotating parts or as washers to replace fibre and other materials. Molded from carbon, graphite and metal compositions, Stackpole seal rings and washers can be designed to meet practically any requirement of temperature, pressure or self-lubrication. New Stackpole grades are consistently being developed to handle corrosive chemicals.

STACKPOLE CARBON COMPANY
St. Marys, Pa.

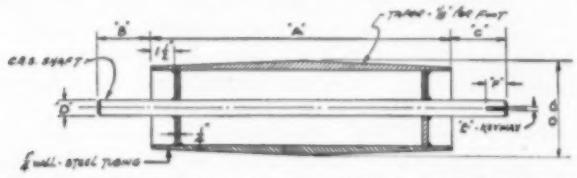
STACKPOLE

"EVERYTHING IN CARBON BUT DIAMONDS"

▲ For more details circle **NED-7921** on enclosed inquiry slip ▲

CONVEYOR PULLEYS
steel units are crown-faced

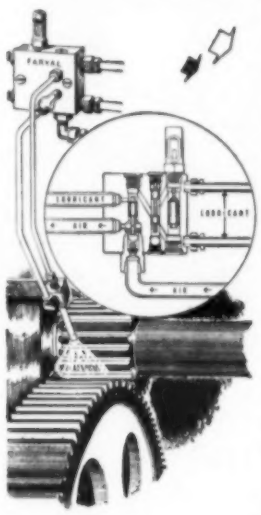
Precision-machined from ¼-in. wall steel tubing after assembly on shafts, these crown-faced conveyor pulleys



assure true-running belt and minimize training. They are available in 6-in. OD sizes with roll lengths from 6¼ to 38¼ in. and in 8-in. OD sizes with roll lengths from 12¼ to 38¼ in. Overhang is 1½ in., and shaft diameters range from 1 to 1-7/16 in. Made by **Island Equipment Corp.**, Dept. NED, 27-01 Bridge Plaza N., Long Island City 1, N. Y.

▲ For more details circle **NED-7922** on enclosed inquiry slip ▲

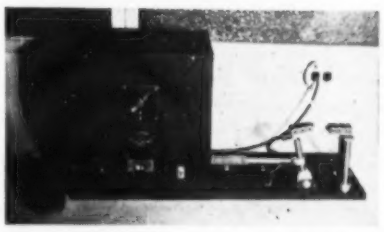
SPRAY VALVE
lubricates open bearing surfaces



Spreading and maintaining lubricant film on slide surfaces, open gearing and other open bearing surfaces is promoted by this spray valve. Either oil or grease is sprayed through nozzle onto any desired area at regular intervals in accurately measured amount. Valve can be added at any point in Dualine centralized lubrication system where compressed air is available or in complete system of spray valves, served by either manual or automatic pumping unit. Positive cut-off by lubricant valve eliminates bleeding from nozzle and limits air used to amount needed to spray each delivery. Made by **Farval Corp.**, 3283 E. 80th St., Cleveland 4, O.

▲ For more details circle **NED-7923** on enclosed inquiry slip ▲

PRODUCTION SOLDERING TOOL
electrodes are solenoid controlled



Production soft soldering and silver brazing operations are performed with this 2500-w solenoid operated resistance type soldering tool. Easily-shaped graphite electrodes are controlled by foot switch so that operator's hands are free to manipulate work. Selector switch affords instant temperature control at any of six settings in accordance with needs of job. Time clock assures uniformity of soldering operation on production work by controlling time cycle. Two-winding type transformer is designed for continuous operation. Made by **Luma Electric Equipment Co.**, 1112 Dorr St., Toledo 1, O.

▲ For more details circle **NED-7924** on enclosed inquiry slip ▲

A Convenient, Low Cost Portable

ELECTRIC BAKING DRYING OVEN

Just What You Need for Touch-Up, Complete Refinishing, De-Hydrating, Baking Industrial Finishes.

Here Are A Few of Its Features

- Plugs into any 110-V AC convenient outlet; no special wiring required.
- Fan driven forced circulation moves large quantities of air through oven, assuring uniform temperature and taking off moisture.
- Costs less than 5 cents per hour to operate; uses approximately 1 KW of electricity.
- Sensitive thermometer—which can be read from outside—is available for accurate temperature control; heats up quickly.
- Strong, sturdy construction.
- Two models, with maximum temperatures of 225° and 325°—higher temperatures special order.
- Proved on thousands of jobs.

Write for Full Details

$69.50 And Up, FOB Chicago

GRIEVE-HENDRY COMPANY
1101 N. Paulina, Chicago 22, Ill.

▲ For more details circle **NED-7925** on enclosed inquiry slip ▲

TRY IT FREE!
TODAY'S BIG BUY IN CLEANERS

the *All-Purpose* **IDEAL**
"tank type" cleaner

For general vacuum cleaning—water pick-up—scrap collection

Cleans everything from ceiling to floor—efficiently and in less time! *Super-powered* with 1-1/3 H.P. motor, yet rolls as easily as a baby carriage. Hose swivels through full circle. Filtering system traps every bit of dust—bigger particles held in large steel tank. Compact—can't tip— heavy-duty for years of service. No other cleaner like it!

Sold Through America's Leading Distributors

See also IDEAL "Hand-Type" Cleaners. BLOW—VACUUM—SPRAY—1-1/3—2/3 and 1/2 HP models.

MAIL COUPON TODAY FOR FREE DEMONSTRATION IN YOUR OWN PLANT

IDEAL INDUSTRIES, Inc.
1032 Park Ave., Sycamore, Ill.

Arrange FREE DEMONSTRATION of the IDEAL "Tank-Type" Cleaner in our plant.

NAME_____
COMPANY_____
CITY_____ ZONE____ STATE____

▲ For more details circle **NED-7926** on enclosed inquiry slip ▲

Carlon Pipe

THE FIRST REAL PIPE THAT IS

PLASTIC

Cuts Installation, Maintenance, and Replacement Costs

Extruded from specially compounded plastics, durable CARLON pipe features flexibility, extreme light weight, absolute corrosion resistance, and a service life many times that of ordinary pipe. It is recommended for handling drinking water, industrial wastes, chemicals, corrosive gases and vapors, and for electrical wiring conduit.

Flexible CARLON pipe is available in diameters up to 6 inches and lengths up to 400 feet (depending upon diameter). This new pipe will follow ditch line or surface contour without use of additional fittings. Long lengths are handled and installed easily by one man, who can make joints in as little time as 2 minutes. CARLON pipe's light weight (only 1/7th that of steel) eliminates the need for heavy materials handling equipment.

CARLON fittings facilitate plastic-to-plastic or plastic-to-metal connections and permit attachment of CARLON pipe to established metal piping systems.

GUARANTEED AGAINST ROT, RUST & CORROSION

Mines

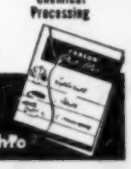
Plating Solutions

Carter engineers made test installations in three of the country's largest coal mines to prove CARLON'S resistance to highly-corrosive acid waters, alkalis, and metallic salts. No signs of deterioration were evident after more than 2 years of continuous operation. One mine superintendent estimated that ordinary metal pipe would have been replaced 7 times during same time interval.

Water & Sewage

Chemical Processing

WRITE FOR CATALOG



CARLON LONG LIFE

CARTER PRODUCTS CORPORATION
10238 Meech Ave. Cleveland 5, Ohio

▲ For more details circle **NED-7927** on enclosed inquiry slip ▲

STEEL

Every Kind
Quick Delivery

NEARBY STOCKS INCLUDE:

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U. M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

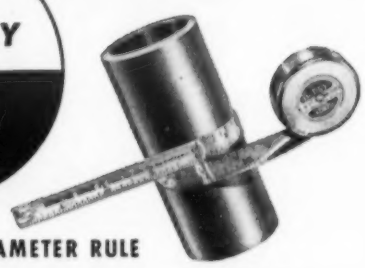
RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

For more details circle NED-7928 on enclosed inquiry slip

MEASURE DIAMETERS

QUICKLY
EASILY



HOBBY 21-P DIAMETER RULE

Especially designed for metal workers and mechanics, this standard 6-foot steel tape rule converts circumference measurements into diameters, up to 21 inches, or vice versa, with special graduations on upper edge of tape. Lower edge is graduated in 16ths. Is the same high quality as all Carlson Rules with these special features:

Swing-Tip for inside measurements—10-second quick change blade without opening case. (Pat. No. 2510939)

Hobby 21-P—Round chrome case and etched steel blade—$1.50 Extra quick change blade—75c

Sold through Hardware and Mill Supply Stores.

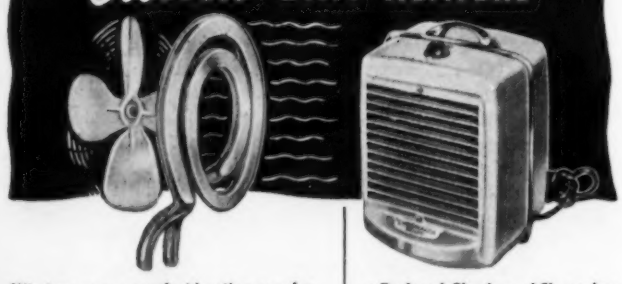
Makers of Buddy, Hobby, Chief and White Chief Rules.

CARLSON & SULLIVAN, INC.
MONROVIA, CALIFORNIA

For more details circle NED-7929 on enclosed inquiry slip

FOR "EXTRA" COMFORT HEAT
At Low Cost

CHROMALOX *Blower-type* *Electric* UNIT HEATERS



Whatever your comfort heating requirements, there's a CHROMALOX Electric Unit Heater that fits the picture exactly. Portable, mounted, built-in—blower-type, natural convection or radiant types—¼ to 40 KW. All with famous, long-lasting CHROMALOX totally enclosed heating elements. CHROMALOX quality construction throughout. Available with automatic and manual controls.

- Enclosed, Shockproof Chromalox Heating Element.
- Quiet, Dependable.
- Long Service Life.
- Easy, Low Cost Installation.
- A Size and Type for Every Requirement.

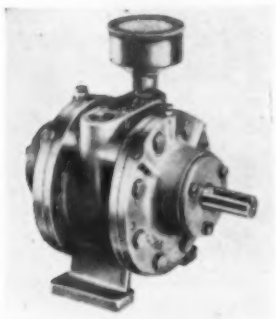
WRITE FOR CATALOG 50
It shows complete line of Unit Heaters of portable, mounted and built-in-wall types.

EDWIN L. WIEGAND COMPANY, 7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See other advertisement on page 55.
CHROMALOX SB-19

ELECTRIC HEATING AT ITS BEST!

For more details circle NED-7930 on enclosed inquiry slip

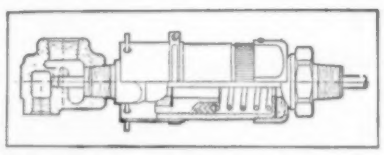
ROTARY AIR MOTOR
usable in hazardous locations



Larger than previous models, No. 8 rotary-vane air motor provides variable speed with simple valve control, explosionproof operation and ability to withstand overload stalling without damage. Operating range is ½-hp at 500 rpm to 3 hp at 1500 rpm for reversible type. Nonreversible models deliver up to 4 hp. Motor uses from 20 to 100 cfm of air depending upon load and speed, and operates on 30 to 80-psi air pressure. It is compact and relatively light in weight. Made by **Gast Mfg. Co.**, 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-7931 on enclosed inquiry slip

REVOLVING JOINTS
permit rotary speeds up to 1000 rpm



Suitable for use in paper, textile, steel and paper processing plants, these cartridge type revolving joints have been redesigned to accommodate packings such as Teflon, Nylon and Kel-F. All packings are stationary seals with rotation taking place on nonporous carbon disk only. Joints can be thoroughly cleaned for handling materials such as paint and food products and are self-aligning. Joints are available in ½, ¾ and 1-in. pipe size. Seals withstand temperatures from −40 to 450° F. Made by **Rotherm Engineering Co.**, 4913 W. Irving Park Rd., Chicago 41, Ill.

For more details circle NED-7932 on enclosed inquiry slip

MULTIPLE LABEL ADDRESSER
simplifies shipping procedure

Master copy for imprinting up to 200 identical labels or tags is prepared simultaneously when writing or typing shipping order or bill of lading with Lab-L-Master system. Self-adhering Lab-L-Master is pressed in place on order sheet, and name and address of consignee is filled in. Thus, printing copy is made, and carbon impression of address appears on shipping order. Master copy is then placed in roll printing device which transfers address or other message directly on labels or tags. Seven lines of typewritten copy can be used, and tag printing is accomplished at rates up to 30 per minute. Labels dry instantly without smearing. Printer holds to or 3 days' supply of printing fluid. System can be used for purposes other than miultiple addressing where a number of repeat impressions are desired. Made by **Master Addresser Co.**, 6500E W. Lake St., Minneapolis 16, Minn.

For more details circle NED-7933 on enclosed inquiry slip

The answer to your materials handling problem could be in this book!

"Key to Lower Costs" contains actual case studies of manufacturers in different types of business. These studies show how much time, effort, space and *money* have been saved through properly engineered materials handling systems. Doubtless you'll find a problem similar to your own. Write for your copy today.

Logan Conveyors
LOGAN CO., 215 CABEL ST. • LOUISVILLE 6, KY.

For more details circle NED-7934 on enclosed inquiry slip

Some of the Products Our Machines Now are Finishing

- Screw drivers, chisels, pliers, saws, wrenches
- Fine silver—knives, forks, spoons
- Cigarette cases and lighters, compacts, mirror and brush backs
- Surgical instruments
- Fan blades, flat iron sole plates, photogravure stock

We have the answer TO YOUR SURFACE FINISHING PROBLEM!

For flash removal to mirror finish . . . a Clair Surface Finishing Machine may be the economical solution to your small product finishing problems. From the seven extremely versatile basic designs, a "custom-made" machine may be developed for your particular application. *Write for technical data.*

CLAIR MANUFACTURING CO., INC.
Specialized Machine Equipment For Glazing and Polishing Operations
OLEAN, N. Y.

For more details circle NED-7935 on enclosed inquiry slip

Tiger Tooth BEAM LIFTING HOOK

$40.00
3000 LB SIZE

$45.00
6000 LB SIZE
F.O.B. CHICAGO

One Man Can Lift, Lower, or Nest Beams of All Sizes

Mail Your Order Direct to...

One man drops Tiger Tooth over flange of beam and signals crane operator to lift. No block or sling chain necessary. No tricky adjustments to make it bite. Speeds up handling and cuts costs in structural shops, steel mills, material yards, finishing yards.

MIDLAND STRUCTURAL STEEL CORPORATION
20 N. WACKER DRIVE, CHICAGO, ILL.

For more details circle NED-7936 on enclosed inquiry slip

NEW LOW COST VOLUME PRODUCTION

Complete, Full-Size Ammonia-Type

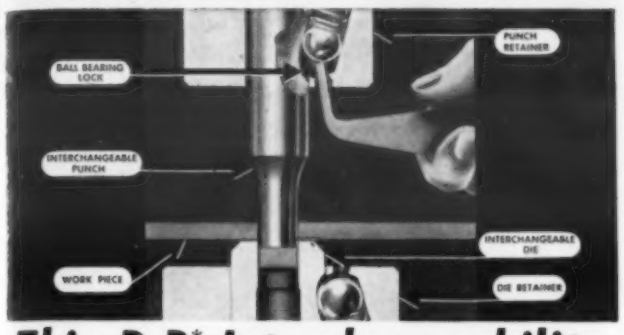
VERSA-LINER WHITEPRINTER $1095

Model D

● Economically prints and develops black line and colored line whiteprints. Uses dry ammonia-fume diazo method. Plugs into standard 115 V 60 cycle AC line, using 19 amps. Easy to install and operate. Handles cut sheets or roll stock up to 42" wide in any length. Variable printing speed to 5 ft. per min. Developing speed set at 6 ft. per min. New light source—low replacement cost. Easy to clean. Minimum maintenance. *Get full facts now!*
Also Model M Versa-Liner for moist diazo process *(no fumes)* at $895.00 list. Spee-Dee Sheet Printers up to 24" x 36" from $45.12 to $137.81.

PECK & HARVEY 5733 N. WESTERN AVE. CHICAGO 45, ILLINOIS
MFRS. OF WHITEPRINT, BLUEPRINT AND PHOTOCOPY EQUIPMENT

For more details circle NED-7937 on enclosed inquiry slip



This R-B* Interchangeability Guarantees Piercing Economy

You can count on low piercing costs when you use R-B interchangeable punches and dies. Their simple, trouble-free design and construction provide quick insertion—instant removal, reducing press "down-time" for replacements to a minimum. And, because they're standardized and interchangeable, R-B punches and dies also cut designing time and simplify die-building.

R-B standard punches and dies are carried in stock. Punches and dies of special sizes, shapes and materials made promptly to your specifications.

*Richard Brothers

GET THE WHOLE STORY IN THIS 48-PAGE FREE CATALOG

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
Department 49 • 12629 Burt Road • Detroit 23, Mich.

Also Produced in Allied's Four Plants . . . HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES •

For more details circle NED-7938 on enclosed inquiry slip

CARTON MARKER codes boxes on production line

Attached directly to cartoning machine, this Custombilt marking unit imprints code on flaps of boxes or cartons as they move along production line. This code number facilitates quality control or other identification of product being packaged. Interchangeable rubber type is used, and unit employs self-inking internal reservoir. Made by **Industrial Marking Equipment Co.,** Dept. NED, 454 Baltic St., Brooklyn, N. Y.

For more details circle NED-7940 on enclosed inquiry slip

INDUSTRIAL TRACTOR has 1800-lb rated drawbar pull

Powered by International Harvester U-1 engine, model 18 Unitow industrial tractor can tow 36 tons of material on level pavement and has proportionate towing power on inclines and grades. Tractor measures 40 x 79 in., has 72-in. turning radius, three speeds forward of 3.3 to 10 mph and reverse speed of 3.7 mph. It is equipped with pneumatic tires on all four wheels, and large diameter rear wheels are mounted with tractor type tires for smooth navigation over railroad crossings and rough material yards. Made by **Hensel Green & Co.,** 9 S. Clinton St., Chicago 6, Ill.

For more details circle NED-7941 on enclosed inquiry slip

SET SCREW WIRE CONNECTOR for use in branch circuit wiring

Underwriters' Laboratories approved for 600-v application as pressure cable fastener, this set screw wire connector is recommended for use on conduit, armored cable, nonmetallic cable and open wiring. It has high-dielectric phenolic shell with extra-long skirt which fully covers wire insulation and prevents flash-overs. Sleeve and set screw are solid brass and corrosionproof. Available in two sizes Nos. 11 and 22, device does not require solder, tape or tools in its application. Made by **Ideal Industries, Inc.,** 1032 Park Ave., Sycamore, Ill.

For more details circle NED-7942 on enclosed inquiry slip

Oil Resistant Rubber Parts

• Featuring LONG LIFE and MINIMUM SWELL, gaskets, sleeves, washers, tubing, and extruded cross-sections now are available fabricated from new oil and gasoline—resistant rubber compounds. These compounds have been developed especially to resist the chemical action of petroleum products and their derivatives as well as industrial and commercial lubricants.

The new compounds can be fabricated into precision parts intended for such applications as fuel lines, dust covers, filters, vibration dampeners, etc.

STALWART Custom-Fabricated oil and gasoline—resistant rubber parts can be supplied to meet S.A.E. or individual specifications in the automotive, aviation, petroleum, electrical, chemical processing and many other industries.

WRITE FOR CATALOG

THE STALWART RUBBER CO.
11151 NORTHFIELD RD., BEDFORD, OHIO
CUSTOM RUBBER FABRICATORS

For more details circle NED-7944 on enclosed inquiry slip

FOR YOUR INFORMATION

NEW 12 PAGE BULLETIN DESCRIBES I-T-E MOLDED CASE CIRCUIT BREAKERS

• Bulletin 5004-D provides a quick, easy reference to the *complete* line of I-T-E Molded Case Circuit Breakers: 125 to 600 v. a-c, 125 to 250 v. d-c; 10 to 600 amps. continuous rating. (All sizes approved by Underwriters' Laboratories, Inc.)

12 pages of photographs, drawings and factual data.

Reading time 9 minutes.

Ask for Bulletin 5004-D

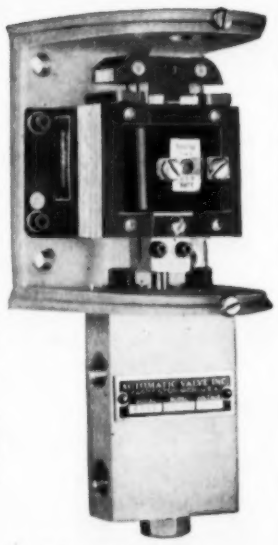
I-T-E CIRCUIT BREAKER CO.
19th and Hamilton Sts., Philadelphia 30, Pa.

SWITCHGEAR • UNIT SUBSTATIONS • CIRCUIT BREAKERS
ISOLATED PHASE BUS STRUCTURES • MECHANICAL RECTIFIERS
RESISTORS • SPECIAL PRODUCTS

For more details circle NED-7939 on enclosed inquiry slip

PILOT VALVES

For Operating Small Cylinders & Master Valves



Compact, sturdy construction precision engineered for high speed and long uninterupted heavy duty operation, Automatic valves have small, well protected solenoids for operating small cylinders and air and hydraulic master valves.

Reasonably priced—Attractive quantity and O.E.M. discounts. Write for bulletin.

AUTOMATIC VALVE CO.
37425 GRAND RIVER AVE., FARMINGTON, MICH.

PIONEERS and SPECIALISTS in PILOT OPERATED SOLENOID CONTROLLED VALVES

For more details circle NED-7943 on enclosed inquiry slip

AUTOMATIC HYDROMETER

Continuously Records Densities!

Here's an invaluable aid to operating efficiency in paper, food and chemical plants! The Foxboro Liquid Density Recorder furnishes continuous, accurate records of density in flowing liquids. May be calibrated in specific gravity or any customary scale. Automatic Recording Controllers also are available.

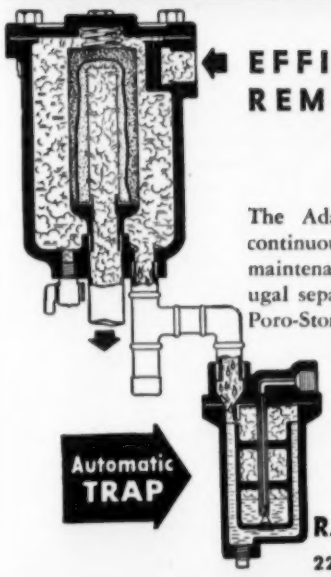
Both instruments are for permanent installation. Function without operator's attention. Accuracy is unaffected by foam. Open records easily read to small unit values.

Write for detailed Bulletin A-264. **The Foxboro Company, 190 Neponset Avenue, Foxboro, Mass., U. S. A.** Branches in principal cities of U. S. and Canada.

FOXBORO Reg. U. S. Pat. Off. DENSITY RECORDERS

For more details circle NED-7945 on enclosed inquiry slip

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:

OIL, WATER PIPE SCALE

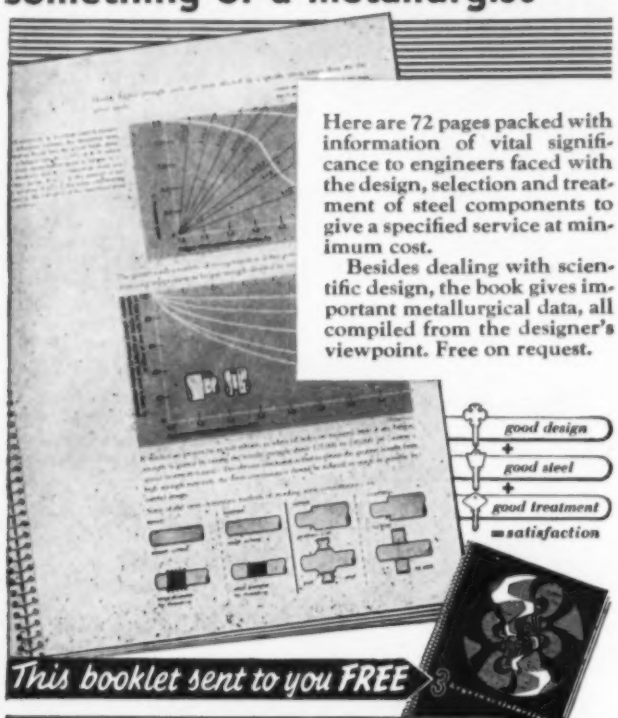
The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

For more details circle NED-7946 on enclosed inquiry slip

Every designer must be something of a metallurgist



Here are 72 pages packed with information of vital significance to engineers faced with the design, selection and treatment of steel components to give a specified service at minimum cost.

Besides dealing with scientific design, the book gives important metallurgical data, all compiled from the designer's viewpoint. Free on request.

Climax Molybdenum Company
500 Fifth Avenue · New York City

F22

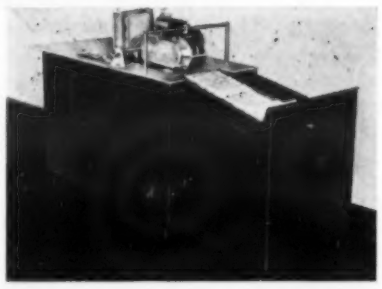
For more details circle NED-7947 on enclosed inquiry slip

CONVEYOR UNIT
removes metal chips or turnings from production machine tools

Incorporating hinged steel conveyor belting, Chip-Tote conveyor will handle hot, heavy and wet or dry chips and turnings from operating automatic or multiple-spindle production machines. Chips are funneled into conveyor belt from steel hopper, carried horizontally until clear of machine's operating mechanism and transported up incline of conveyor for discharge into tote boxes or carry-off conveyor system. Self-contained unit requires minimum floor space, prevents chip fall-through and does not remove machine coolant. Wiper blades spaced at intervals on conveyor belting prevent jamming. Several models of this conveyor are available to meet height and width requirements of all standard machines. Perforated steel links can be supplied where complete drainage of chips is desirable. Made by **May-Fran Engineering, Inc.**, 1711 Clarkstone Rd., Cleveland 12, O.

For more details circle NED-7949 on enclosed inquiry slip

CARTON PRINTER
imprints code on packages at rates up to 7200 per hour



Code dates, prices, contents identification and other legends are imprinted quickly on flat cartons, container caps, cards, tags, bags or flat folding containers with Cartoncoda imprinting machine. Advanced ink control system uses enclosed ink fountain, metering roll and doctor roll to apply fast-drying and special inks for various types of package surfaces. Machine can deliver up to 7200 clear registered imprints per hour even on waxed, resin-coated or other stocks.

Machine is readily adjustable for various widths, lengths and thicknesses and will even handle corrugated cartons. Adjustable range of model C is 2 to 7 in. wide and 3 to 12 in. long, while model D accommodates 3 to 14-in. widths and 4½ to 22-in. lengths. Changes of copy can be made quickly by means of rubber type or dies. Imprints can consist of letters, figures, symbols or special designs ranging in size from 1/16-in. up to full size of package surface.

Only attention required is feeding stacks of cartons to be printed. Machine is electrically powered. Imprinted cartons are restacked at discharge end ready for use in production packaging operations. Made by **Adolph Gottscho, Inc.**, 6C Terminal Rd., Hillside 5, N. J.

For more details circle NED-7950 on enclosed inquiry slip

NEW HIP-POCKET TOOL
MAKES 36 JOBS EASIER

AMPROBE*
snap-on volt-ammeter
reads current without interrupting service!

ONLY THE AMPROBE* GIVES YOU ALL THESE FEATURES!
- So compact, it fits in your pocket!
- ½ the usual size—only 7"!
- ⅓ the usual weight — only 14 oz.!
- Measures 5 current ranges and 2 A.C. voltage ranges!
- Accuracy: ± 3% (of full scale deflection)
- Field-proved and accepted — thousands in daily use!
- ½ the usual price — only $49.50!

MODEL A-6
Amps: 10/25/50/100/250
Volts: 150/600
(2 other popular models available)

Look what you can do with this one pocket-size instrument: Determine load conditions without having to shut down equipment. Spot motor overloads and underloads. Diagnose trouble calls faster, under actual load. Measure voltage at motor terminals. Set overload relays. Load balancing, etc.

Send for 16-page manual: "How to Make Your Job Easier With An AMPROBE." Pyramid Instrument Corp., 49 Howard Street, N. Y. 13, N. Y. (Export Dept.: Morhan Exporting Corp., 458 Broadway, N. Y. 13. Cable: Morhanex.)

$49.50 Complete with leather case and voltage test leads

AMPROBE
A PYRAMID INSTRUMENT

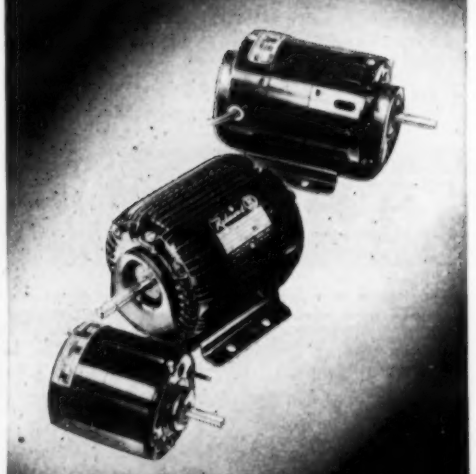
See it today at the better electrical distributors

For more details circle NED-7952 on enclosed inquiry slip

☆ REDMOND ☆ MICROMOTORS

RS ☆ REDMOND ☆ MICROMOTORS ☆ REDMOND ☆ MICROMOTORS ☆ REDMOND ☆ MICROMOTORS ☆ REDMOND ☆ MICROMOTORS

The big name in Small Motors
Redmond MicroMotors



Your products acquire an added touch of distinction when powered by Redmond Micromotors. And you find Micromotors easy to apply too, for they come in a multitude of sizes up to 1/10 horsepower. When you need electric motors, check with Redmond . . . *the BIG name in Small Motors.*

Redmond
COMPANY, INC.

MAIN OFFICES:
OWOSSO, MICHIGAN, U.S.A.

For more details circle NED-7948 on enclosed inquiry slip

A NEW BOOK TO HELP YOU CUT COSTS

Our new booklet on Rex Stock Sprockets gives you all the details on how these sprockets will add life to your chain drives. Cast in either highest quality gray iron or long wearing Rex Temperim, there is a correct Rex Sprocket for every chain in our complete line.

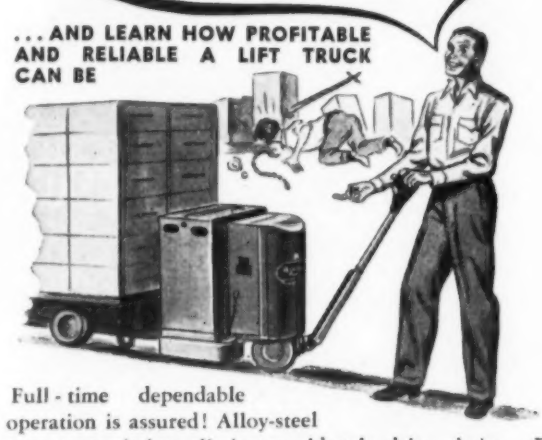
The booklet includes complete specifications, prices and ordering information. Send for it today, using coupon below.

REX CHAINS and SPROCKETS

CHAIN BELT COMPANY 50-111
1686 W. Bruce Street, Milwaukee 4, Wis.
Gentlemen:
Please send me a copy of Bulletin No. 49-30.
Name.....
Company.....Dept.....
Address.....
City.....State.....

For more details circle NED-7951 on enclosed inquiry slip

"Get a Hydro Lectric"



Full-time dependable operation is assured! Alloy-steel gear transmission eliminates old-style drive chains. For greater maneuverability, overall truck length is shorter, and truck can be steered with handle in vertical position. Differential action of front wheels makes steering fifty percent easier. Brake operates with handle in any position, for greater safety.

Get the facts! Write today for Bulletin "G".

LIFT TRUCKS, INC.
Walter Stuebing, *President*
2425 Spring Grove Ave. Cincinnati 14, Ohio

For more details circle NED-7953 on enclosed inquiry slip

BOSTITCH H4 Heavy-Duty Stapling Hammer

Three Times Faster Than Hammer and Nails

EACH EFFORTLESS BLOW drives home a sturdy ¾" Bostitch staple. ONE-HAND FREE for more accurate placing of material. STAPLE LEGS SPREAD inside the work, putting them under tension for increased holding power. HAMMER WEIGHS only 2 lb, 4 oz with load of 50 staples. Quick and easy to load. WORKERS APPROVE . . . no mashed fingers . . . no mouth infection. WRITE FOR BULLETIN 212 . . . BOSTITCH, 726 Mechanic Street, Westerly, Rhode Island.

BOSTITCH fastens it better AND FASTER with wire

ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

Trade-Mark "Bostitch" Registered U.S. Patent Office and Foreign Countries

For more details circle NED-7954 on enclosed inquiry slip

Give floors sheen of glass
...grip of emery
with
TRED-FAST
Penetone's new non-slip wax!

Now, give your floors the beauty of a waxed finish . . . and still keep them *safe* underfoot. TRED-FAST, newly developed *non-slip* wax, contains a special chemical derivative that assures you all the shining qualities of a water-emulsion wax, plus a grip of emery. Actually safer than no waxing at all! Easy to apply, quick-drying, hard and durable, TRED-FAST is ideal for asphalt tile, rubber tile and all other surfaces. Listed as an "anti-slip material" by Underwriters Laboratories, Inc. Send for full facts and samples of revolutionary new TRED-FAST.

THE PENETONE CO.
BOX ND 1150 • TENAFLY, N.J.
For more details circle NED-7955 on enclosed inquiry slip

INCREASE YOUR PROPERTY PROTECTION AGAINST
FIRE • THEFT • VANDALISM

CHICAGO Watchclock System

Enables watchman to prove he's on the job!

In only a few hours anyone can install the tamperproof CHICAGO WATCHCLOCK System. Learn about this low-price method of extra plant-protection that quickly pays for itself...Write for colorful folder: "Who's Watching Your Watchman?" Illustrates portable clock, daily dial-inserts and fixed station boxes.

QUICKLY PAYS FOR ITSELF:
REDUCES Insurance Rates
For use by watchman or any night worker ... Used all over the world.
APPROVED BY THE UNDERWRITERS' LABORATORIES, INC. and by THE FACTORY MUTUALS LABORATORIES

Write today to
CHICAGO WATCHCLOCK
Div. Great Lakes Industries, Inc.
1522 S. WABASH AVE., CHICAGO 5, ILL.
"The first – and still the first!"

For more details circle NED-7956 on enclosed inquiry slip

Hammond of KALAMAZOO says WET

ABRASIVE BELT GRINDERS—POLISHERS

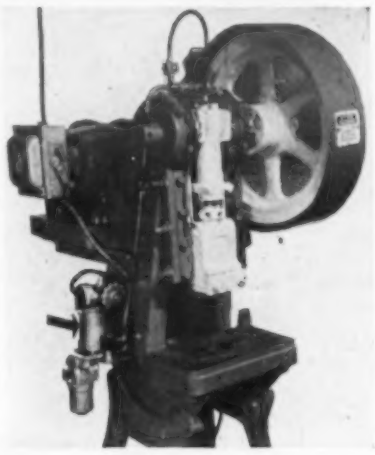
ABRASIVE BELTS
- CUT COOLER
- CUT FASTER
- DO NOT DISCOLOR OR BURN WORK
- IMPROVE FINISH
- STEP UP PRODUCTION

Model VH-6 — WET-n-DRI, 6" Abrasive Belt Grinder-Polisher, Vertical or Horizontal Operation. Independent coolant unit or water main connection.

Model 400 — WET-n-DRI, 4" Abrasive Belt Grinder-Polisher. Floor or Bench Models. Independent coolant unit or water main connection.

Hammond Machinery Builders INC
1623 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN
For more details circle NED-7957 on enclosed inquiry slip

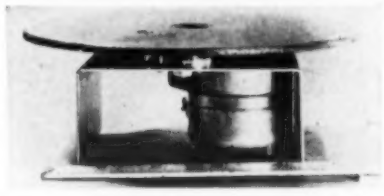
LUBRICATION SYSTEM delivers atomized oil to bearings



Constant and automatic delivery of lubricating oil to all types of machine bearings is assured by Alemite Oil Mist system. Available for use with any shop air line, unit consumes approximately 1 cfm of free air. Controls are built-in air pressure regulator and needle-type valve which regulates flow of oil. Water separator is supplied to assure clean dry air for system. Since pressure of air carrying mist is slightly greater than atmospheric pressure, dust and other harmful abrasives are kept from entering. Application of proper amount of oil prevents 'fluid friction' and passage of air which delivers mist through bearing results in cooling action. Made by **Stewart-Warner Corp.**, Alemite Div., Dept. NED-615, 1826 Diversey Parkway, Chicago 14, Ill.

For more details circle NED-7958 on enclosed inquiry slip

SMALL REVERSING TURNTABLE plugs into any light circuit



Thirty-five different back-and-forth motions are possible with this Midget reversing turntable. In addition to display and laboratory applications, device can be employed to animate lightweight products. Operating at 4 rpm on 110-v ac, unit can be adjusted to rotate through any arc from 3 to 357 degrees by moving stop pins. Double face self-adhering tape can be used to attach any object on 6-in. turntable. Motor operates in any position. Made by **Gale Dorothea Mechanisms**, 37-55 85th St., Jackson Heights, L. I., N. Y.

For more details circle NED-7959 on enclosed inquiry slip

SILENT ELECTRIC TYPEWRITER insulated case is soundproof

On this silent electric typewriter, all typing operations are performed on keyboard except insertion and removal of paper. This design plus use of soundproof case makes operation of machine inaudible a short distance away. All keys are actuated electrically, and insulated case can be opened instantly by touch of single key. Made by **Underwood Corp.**, Dept. NED, 1 Park Ave., New York 16, N. Y.

For more details circle NED-7960 on enclosed inquiry slip

Flex-Lite gets in where ordinary flashlights can't! Flexible extension reaches around corners, in deep recesses, through small clearances. Indispensable to maintenance men, mechanics, electricians, and foundries.
Extensions are made in standard lengths of 9", 18", 36", and 60"—special lengths to order. Three coverings available: braided (woven metallic) for general service; flexible steel armor for heavy duty work; and neoprene insulated for electrical work. Has positive acting stainless steel sliding switch. At your jobber's or write direct.

Aero-Motive AERO-MOTIVE MFG. CO.
1103 ALCOTT ST. KALAMAZOO 24, MICHIGAN
For more details circle NED-7961 on enclosed inquiry slip

We carry a complete stock of all component parts for standard radius and degree roller turn assemblies . . . either overhead or floor types.

Delivery of complete assemblies 2 to 3 weeks.

JERVIS B. WEBB COMPANY
MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS
OFFICES IN PRINCIPAL CITIES
8921 ALPINE AVE.
DETROIT 4, MICH.

For more details circle NED-7962 on enclosed inquiry slip

APECO Speedliner DUPLICATOR
Only $84.50 (Plus Fed. Tax) COMPLETE with supply of master carbon sheets and supply of copy paper.

Prints 5 colors at once!
60 Copies per minute

Here's the modern way to quickly produce multi-copies of letters, memos, bulletins, price lists, data sheets and thousands of other duplications. Just type or write or draw your original copy over APECO carbon sheets—in one to 5 colors. Then slip in machine and turn the crank! (No ink—no muss.)

WRITE Now, on your letterhead, for illustrated Speedliner booklet giving all the facts on making copies of anything the *modern* way . . quickly, easily, economically! Write, *today!*

FREE Booklet!

AMERICAN PHOTOCOPY EQUIPMENT COMPANY
2855 North Clark Street, Chicago 14, Illinois

For more details circle NED-7963 on enclosed inquiry slip

wear a

DUPOR No. 24

THE RESPIRATOR THAT IS U.S.B. OF M. APPROVED FOR TYPE "A" DUSTS

More than 24 sq. in. twin filter area. Sanitary face cloth. Soft rubber face mask. Has all patented DUPOR features including bulb valve controlled breathing—panorama view with no blind spots. A favorite for years!

Sample sent $2.50 pp

H. S. COVER
South Bend, Ind.

For more details circle NED-7964 on enclosed inquiry slip

THIS SQUIRT LOOSENS-
FROZEN BOLTS.. BEARINGS

It's fast and accurate—shoots 15 feet—a drop or a squirt. It's labeled Kroil—so you can grab it quickly when a frozen bolt, screw or bearing starts to cost expensive time or threaten production.

That is when Kroil creeps into millionth inch spaces to soften rust, dissolve gum and supply lubrication to loosen the parts. It's fast and it's positive.

"Kano Kroil always opens up the tight fitting covers on fire extinguishers for us. It is truly a wonderful preparation. We have found such covers we could not force off with a blow of a hammer. Several minutes' seepage of Kroil did the trick," so says a service organization for fire extinguishers.

Kroilers are priced at $1.50 each and are well worth it. As an inducement to try Kroil we offer the combination of one Kroiler and one gallon of Kroil—(listed at $3.50) for $4.75, f.o.b. factory.

If you are not one of the 8,500 industrial plants already using Kroil, send for a gallon on the proposition that it will loosen the most stubborn frozen part or you get your money back.

KANO LABORATORIES 1074 THOMPSON LANE NASHVILLE 11, TENN.

For more details circle NED-7965 on enclosed inquiry slip

DENSER, FASTER SETTING —A NEW FLOOR IN 24 HOURS

***PLASTIC ROCK**
*PATENTED

Investigate SUPERSET Plastic Rock, the newest version of that phenomenal 10-year success in floor resurfacing. Specially designed for fast work without lengthy shut-down. All original advantages retained: noiseless, flame-retardant, skid-safe even when wet, dustless; does not curl, crumble or loosen; bonds to concrete, wood or steel; no "formulae" to confuse, simply mix and trowel, packed complete. BUT NOW — new floor for old in record time, and more enduring than ever — SUPERSET Plastic Rock.

Ask for New Report SN-220-11.

UNITED LABORATORIES, INC.
16804 Euclid Avenue • Cleveland 12, Ohio

TESTED APPROVED ULI UNITED LABORATORIES INC.
PRODUCTS AND PROCESSES for PROTECTING PROPERTY
Field Representatives All Over The World

For more details circle NED-7966 on enclosed inquiry slip

BENCH GRINDERS
have wheel speed of 3440 rpm

All four models of these bench grinders have sealed ball-bearings. They have base-mounted on-off toggle switch and removable guards for convenience when using wire brushes and buffing wheels. Adjustable eyeshields are available as optional equipment. Powered by ¼ to ¾-hp close-coupled or long-end-bell motors, four models have 6 or 8-in. wheels. Made by **Cummins Business Machines Corp.,** Cummins Portable Tools Div., 4770 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-7967 on enclosed inquiry slip

LOCK-SCREWS
bulge provides internal locking

Designed for wide variety of fastening applications, Thredlock screws will lock in any position. At point where thread locking takes place, portion of screw thread is removed and thread on one side of this space has gently curved bulge which projects into vacant area. Since path through which workpiece must pass is no longer straight, mating thread is distorted to conform to bulge and provides vibrationproof internal locking action. Screw can be removed and reinserted a number of times without injury to workpiece threads. Sizes from 2/64 to ½-13 are available with slotted or Phillips recessed heads in all head sizes. Amount of bulge and taper can be varied to fit desired application. Several screw manufacturers have licensed Thredlock principle from **Thredlock,** 9397 Whitall Lane, Grosse Ile, Mich.

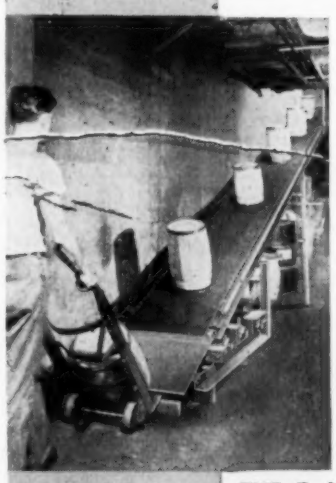
For more details circle NED-7968 on enclosed inquiry slip

LAYOUT PROTRACTOR TABLE
aids checking without moving setup

Featuring 360-degree radial positioning within 90-degree vertical arc, illustrated model No. 30 layout protractor table has been designed to facilitate checking or layout without disturbing original setup. Shown in horizontal position, it has pattern attached to 30-in. rotary table which can be set and locked in any position within specified vertical arc. Indicator and vernier on adjustable arm permit direct readings accurate to within 10 minutes. Indicator assembly can be set to operate on either side of table, and circumference of table is graduated from 0 to 360 degrees in ½-degree increments. Made by **SPO Inc.,** 6474 Grand Division Ave., Cleveland 5, O.

For more details circle NED-7969 on enclosed inquiry slip

BUSCHMAN CONVEYOR SYSTEM
SAVES 84%
for automotive specialties manufacturer



Another Buschman example of slashing costs, unloading 200 lb. Kegs in one sixth the time of former methods:

Buschman roller gravity conveyor feeds 227 Kegs from truck to the floor-to-floor belt conveyor. Instead of 32 hours, the job is done in 5.2 hours and the freight elevator formerly tied up for two hours is free for other traffic.

Cut costs where it's easiest . . in handling . . . with money-saving Buschman Conveyors. Without cost or obligation, Buschman Representatives will survey your operations and point out possible savings. Write today for complete catalog.

Buschman Conveyors

THE E. W. BUSCHMAN CO., INC.
Spring Grove at Winton Place Cincinnati 32, O.

For more details circle NED-7970 on enclosed inquiry slip

DESIGNED— **for quiet, dependable operation**

SEALMASTER BALL BEARING UNITS

- ★ Pillow Blocks
- ★ Take-Up Units
- ★ Flange Units
- ★ Cartridge Units
- ★ Flange Cartridge Units

Self-Aligning—Exclusive design permits shaft misalignment in any direction, without distortion of seal.

Permanent Seal—Patented centrifugal seal: exclude dirt and retain lubricant.

Pre-Lubricated—SealMasters are shipped with lubricant sealed in—ready to use.

No Housing Wear—Patented locking pin positions unit for relubrication and prevents rotation of outer race in housing.

Write for Catalog 845

BEARING DIVISION
STEPHEN S-A ADAMSON MFG. CO.
12 RIDGEWAY AVENUE, AURORA, ILLINOIS • LOS ANGELES, CALIF. • BELLEVILLE, ONT.

Factory Representatives and Dealers in All Principal Cities

For more details circle NED-7971 on enclosed inquiry slip

KIRK and BLUM
NEW TYPE "M"
UNIT DUST COLLECTORS

Maximum Capacity Minimum Space and Maintenance

This new Heavy Duty Unit Collector offers many features not found in the ordinary portable dust collecting unit. Cleaned air may be returned to room or vented to outside. Motor and exhauster are completely isolated from dust . . . . the unit is completely fire proof. Housings are extra heavy. This unit can be readily moved to meet changing needs. Models available in 450, 900 and 1800 CFM at high velocity.

Kirk and Blum with 42 years experience in large dust control installation, have designed this unit for higher efficiency, with greater capacity and compactness. Write for Bulletin M. The Kirk & Blum Mfg. Co., 2813 Spring Grove Ave., Cincinnati 25, Ohio.

FOR CLEAN AIR... THE INVISIBLE TOOL
KIRK AND BLUM
DUST CONTROL SYSTEMS

For more details circle NED-7972 on enclosed inquiry slip

keep posted on—
relative humidity and temperature
WITH THE

BENDIX FRIEZ
Hygrodial

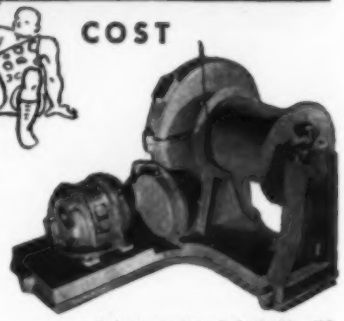
It is a well known fact that temperature and relative humidity affect the productive capacity of both men and machines. Keeping an accurate check on your air-conditioning equipment with a Bendix-Friez Hygrodial is as easy as looking at the clock. This handsome, precision indicator is calibrated to professional standards by the manufacturers of the world's finest weather instruments. Only 4" high and 5½" wide, it is ideally suited for desk or wall mounting. Only $18.00 —special discounts on quantity orders.

WRITE:
FRIEZ INSTRUMENT DIVISION OF Bendix AVIATION CORPORATION
1324 Taylor Avenue, Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

For more details circle NED-7973 on enclosed inquiry slip

S-A WINCHES
Save time and men

AT LOWEST COST

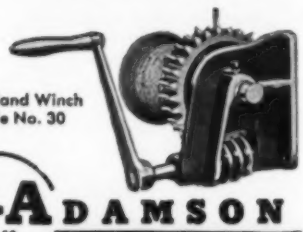


S-A Motor Winch Style No. K5

Don't take high-pay men from their regular jobs to lift or move heavy loads. It saves time and money to do most lifting and pulling jobs with an S-A Winch.

One man—with a hand winch—can lift as much as a ton—up to 3,000 pounds with an S-A Motor Winch. *Cut operating costs this economical way!*

Write for Winch Bulletin 340 and consider possible savings.



S-A Hand Winch Style No. 30

STEPHEN S-A ADAMSON MFG. CO.

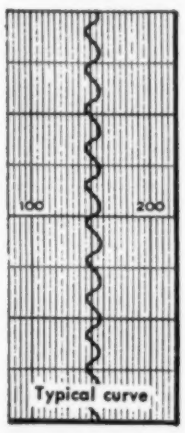
Tellevel Bin Level Controls • Car Loaders
SACO Speed Reducers Car Pullers • Winches
SealMaster Ball Bearings

12 Ridgeway Ave., Aurora, Illinois

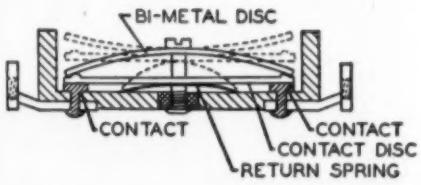
For more details circle NED-7982 on enclosed inquiry slip

NEW STEVENS THERMOSTAT

fast response • close temperature control



Specifically engineered for electronic, appliance and apparatus applications, compact Type M Stevens Thermostats assure *fast response and close temperature control*—characteristics of larger Stevens Thermostats.



Action of new Type M thermostat is extremely precise because bi-metal element is electrically independent. Bi-metal disc rests on top of rigid Monel-backed contact disc, which carries current on its silver side because of minimum electrical resistance. Since bi-metal carries no current, artificial cycling and life-shortening "jitters" are eliminated.

Double, heavy-duty silver contacts in series minimize arcing, further increase thermostat life. Heat-resistant stainless steel or Inconel return spring assures positive On or Off position. Silver-plated brass or steel terminals, mounted on non-conducting Alsimag base, are furnished in standard or special shapes.

Get faster response and closer temperature control on small current differentials. Specify Stevens Type M Thermostats on your appliances and industrial apparatus—*for better performance, longer life.*

A-2369

STEVENS *manufacturing company, inc.*
MANSFIELD, OHIO

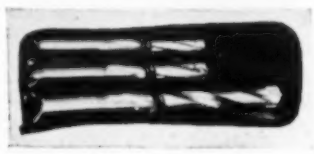
For more details circle NED-7983 on enclosed inquiry slip

STEAM-JACKETED PUMP
for handling hot viscous liquids

To insure even thermal distribution, steam jacket on SK herringbone gear pump completely covers internal parts. Inlet, outlet and cover flanges are cast integral with pump base, and rigid straight-bore housing construction minimizes possibility of distortion from pipe line strain or misalignment. Pump is available in Meehanite B, cast steel, bronze or special alloy case with internal parts built to specifications. Design features include case-hardened gears with high-pressure angle tooth, unitized rotor and bearing assembly and finish ground alloy steel shafts. Steam connections on pump jacket are readily accessible and are designed to permit variety of piping arrangements. Made by **Schutte & Koerting Co.**, Dept. P-A, Twelfth & Thompson Sts., Philadelphia 22, Pa.

For more details circle NED-7984 on enclosed inquiry slip

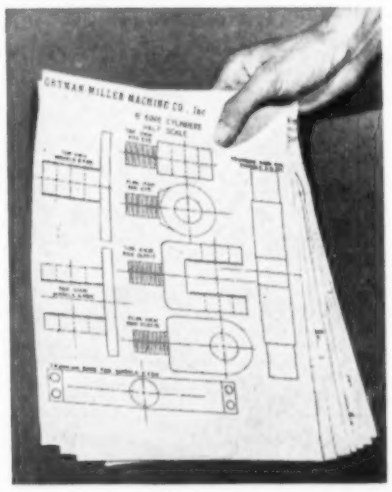
CARBIDE-TIPPED MASONRY DRILLS
1/4, 3/8 and 1/2-in. sizes in roll kit



Brick, concrete, tile, plaster and similar materials can be drilled quickly and cleanly by these carbide-tipped masonry drills which fit in hand brace or electric drill. Super Spiral flute design makes possible drilling of masonry without stopping for dust removal. Made by **Super Tool Co.**, 21640 Hoover Rd., Detroit 13, Mich.

For more details circle NED-7985 on enclosed inquiry slip

CYLINDER TEMPLATES
simplify design work and save time

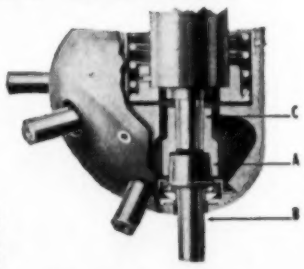


Design work which includes air or hydraulic cylinders can be simplified by using this set of templates of Ortman-Miller cylinders. They are slipped in position under designer's tracing cloth and required component parts traced off. Set is comprised of eight sheets printed on both sides with cylinders drawn to both one-half and full scale. Plan, front elevation and end elevation are included for all cylinders with from 1 to 8-in. bores, and full range of interchangeable mounting devices is shown. Available free from **Ortman-Miller Machine Co.**, 1222-4 150th St., Hammond, Ind.

For more details circle NED-7986 on enclosed inquiry slip

MORE HOLES
PER HOUR—PER DOLLAR

Increase production of any standard drilling machine by adding a Lign-o-matic, the *only* drill turret with the patented, self-centering principle that guarantees sustained accuracy equal to the drilling machine itself.



FOR ALL CONSECUTIVE DRILL PRESS OPERATIONS

PROVED PRODUCTION INCREASE — Turret indexes faster than tools can be changed or work moved to another spindle. A single Lign-o-matic will release 5 drilling machines for other work and still show increased production and reduced costs on original job.

VERSATILITY—Fits any standard drilling machine without altering the machine. Handles operations such as drilling, reaming, counterboring, and tapping (on reversible spindle machines), up to 1/2" diameter in any material.

PRECISION — Patented, self-centering tapered drive (A) automatically locks turret spindle (B) into exact alignment with drilling machine sprindle (C) for sustained accuracy.

GUARANTEE — May be returned in 10 days for any reason for full refund of purchase price. Two-year guarantee against defective parts.

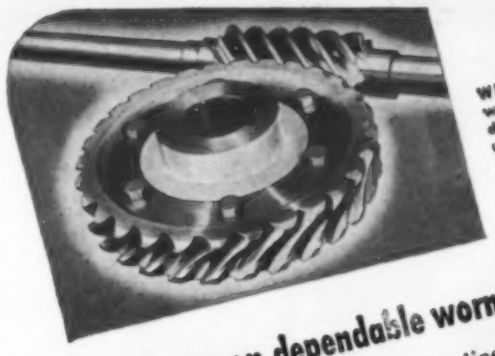
PRICE — Model D, 6 spindles with No. 2 Jacobs male taper $235.00
Chucks extra at established prices.

DELIVERY— Currently, 2 weeks.

☐ Please rush ..... Lign-o-matic turrets for
(drill press make)..... (size).....
(quill dia.) ..... (spindle taper) .....
My name.....
Title .....
☐ Please send literature on Lign-o-matic turret.
(Attach coupon to company letterhead)

HOWE & FANT, INC.
528 FLAXHILL RD., SO. NORWALK, CONN.

For more details circle NED-7987 on enclosed inquiry slip



Whether you want standard drives or special units, Cleveland can serve you.

Prompt service on dependable worm gearing

CLEVELAND offers a complete line of worm-gear sets and speed reducers, including the popular fan-cooled Speed-aire, to meet the needs of any machinery or equipment builder or user. Representatives in all major industrial centers are at your service. Write for the latest Cleveland catalog, indicating your requirements. Your inquiry will receive prompt attention. The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

CLEVELAND Worm Gear Drives

For more details circle NED-7988 on enclosed inquiry slip

A FAST WAY TO REDUCE COSTS

Capacities from 1/8 to 1 ton
110, 220 or 440 volts

Hundreds of plants are cutting overhead with the CM COMET... a sturdy, high-speed, portable *electric* hoist. All working parts fully enclosed and permanently lubricated. Don't buy until you see the CM COMET. Ask your local distributor for a demonstration.

Write for Bulletin 138 Get all the facts

CHISHOLM-MOORE
HOIST CORPORATION
(Affiliated with Columbus-McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

For more details circle NED-7989 on enclosed inquiry slip

FOR SAFE HANDLING
of corrosive liquids

SAFE, FAST ACID PUMP—For carboys, drums and barrels. A smooth flow starts quickly . . . no dangerous spurts or splashes. Lifting and tilting eliminated. No dangerous pressure build-up, flow can be stopped instantly.

TYPE F-H $14.50

BIG, NEW, SAFETY CATALOG

48 pages; hundreds of safety items completely described and illustrated. Price list included.

SENT FREE ON REQUEST

A DEPENDABLE GUIDE TO SAFETY

All orders shipped direct from Philadelphia

GENERAL SCIENTIFIC EQUIPMENT CO
2701 W. Huntingdon St., Philadelphia 32, Pa

For more details circle NED-7990 on enclosed inquiry slip

BLACKMER PUMPS
for efficiency in
LIQUID MATERIAL HANDLING

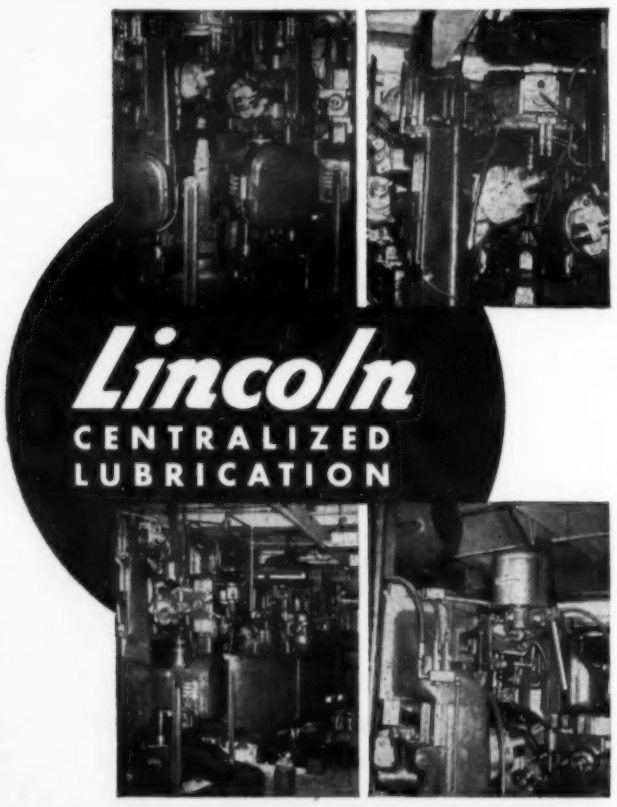
Choose Blackmer, the world's longest line of Rotary Hand Pumps. Available complete for underground or surface tanks, barrels, bulk head mounting, with locking device, with meter, in iron or bronze, for volatile or viscous fluids. NEW vane designs provide service for MORE industrial liquids up to 1500 G.P.M. in Blackmer Rotary Power Pumps.

Get the "FACTS"

Blackmer Pumps
Blackmer Pump Company
Grand Rapids 9, Michigan

Write for a copy!

▲ For more details circle **NED-7991** on enclosed inquiry slip ▲



"Reduces Down-Time . . . Increases Operating Hours"
at Detroit Gear Division, Borg-Warner Corporation

The Detroit Gear Division of Borg-Warner Corporation recently completed an extensive equipment and plant remodeling program to produce a new automatic transmission for a leading automobile manufacturer.

To have a minimum amount of "down-time" and a maximum amount of "operating time," Lincoln Centro-Matic* Lubrication was installed on eight Station Cleveland Riggid Hobbers. Results were so satisfactory that the System was extended to the Bullard Production Machines. Again, the results led to the installation of the Lincoln System to a large battery of newly purchased Holcroft Heat Treating Furnaces.

According to L. A. Schnitzer, Maintenance Superintendent of Detorit Gear Division, results from Lincoln's Centralized Lubrication are:

"1. Positive automatic lubrication for all bearings at predetermined intervals

"2. Lubrication while machines are in operation

"3. Complete lubrication of machines in a matter of one or two minutes, with visual indicator at each point of lubrication

"4. Avoids costly machine breakdown time."

Lincoln's lubrication system specialists will work with you and recommend the time and money saving Centralized Lubrication System best suited to your equipment.

On Old or New Equipment LINCOLN'S Centralized Lubrication Systems

PROVIDE THE RIGHT LUBRICANT, IN THE RIGHT QUANTITY, AT THE RIGHT TIME

DISTRIBUTED NATIONALLY THROUGH LEADING INDUSTRIAL DISTRIBUTORS LOCATED IN ALL PRINCIPAL CITIES

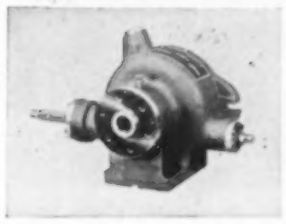
SEE OUR CATALOG IN SWEET'S

• • • PIONEER BUILDERS
LINCOLN
LUBRICATING EQUIPMENT • • •

LINCOLN ENGINEERING COMPANY • 5702-76 Natural Bridge Ave., St. Louis 20, Missouri

▲ For more details circle **NED-7992** on enclosed inquiry slip ▲

WORK INDEXER
is three-position 120-degree type



This positive-locking speed indexer is designed to simplify locating and positioning operations that require three 120-degree divisions. It is easily adapted to various drilling, milling, tapping, punching and similar machining operations. When connected to table controls, indexer follows complete cycle of operations without attention from operator. Accurate spacing is assured by positive locking mechanism. Made by **Erickson Steel Co.**, Erickson Tools Div., 2311 Hamilton Ave., Cleveland 14, O.

▲ For more details circle **NED-7993** on enclosed inquiry slip ▲

INSULATED RECORD LOCKERS
are standard record-file size

When substituted for standard file drawer in H-H-M insulated record files, these lockers create private locked compartments for confidential papers and personal belongings. Lockers are formed by installing steel doors, securely anchored to files, in file drawer opening. Two styles are available: light steel locker with key lock and heavy steel model with combination lock. Made by **Herring-Hall-Marvin Safe Co.**, 1451 Grand Blvd., Hamilton, O.

▲ For more details circle **NED-7994** on enclosed inquiry slip ▲

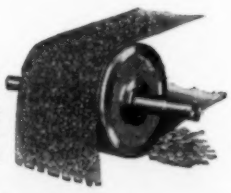
PNEUMATIC VISE
features interchangeable jaw faces

Air-powered models 457R and 457R-6 Vi-Speed vises (*See NED June '47*) now utilize interchangeable jaw faces of hardened tool steel with either serrated or smooth surfaces. Faces are firmly attached to jaw castings by spring tempered pins driven into holes drilled to bind both faces and pins. They can be removed by driving out pins with punch after which other faces or dies can be mounted in same manner. When equipped with these faces, ordinary loss of jaw hardness resulting from heat applied to work near vise is reduced, but when necessary, faces can be removed and rehardened. Made by **Van Products Co.**, 2129 Baldwin Bldg., Erie, Pa.

▲ For more details circle **NED-7995** on enclosed inquiry slip ▲

HOMER permanent non-electric magnetic plate and pulley separators eliminate costly repairs and lost time due to tramp metal damage

Available in standard or hinged models, HOMER Plate Magnets are furnished with single or triple air gaps as required, and are built for either Sanitary or Industrial applications.



Available for light, standard or heavy-duty service, HOMERS are permanent and require no outside power source. They are not affected by atmospheric or climatic conditions.

Write for descriptive literature.

Homer **The HOMER MANUFACTURING CO., Inc.**
Dept. I-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

▲ For more details circle **NED-7996** on enclosed inquiry slip ▲

WELL CAST

Aluminum Electric Motor Housing

You're sure of a strike like this, when you've made sure your tackle and technique are RIGHT.

And you can't miss if you apply the same principle in buying aluminum and magnesium castings.

Particularly when you specify *Well-Cast* castings. You know you are getting 40 years' experience; three *complete* plants; X-Ray facilities; close metallurgical control; quality production technique.

Sand, semi-permanent, permanent mold.

Like to receive the Wellman Magazine each month?

Drop us a note.

"A Light Casting Is the Right Casting"

Well-Made wood and metal patterns
Well-Cast Ampco bronze castings

THE WELLMAN
BRONZE & ALUMINUM COMPANY
2516 EAST 93rd STREET ★ CLEVELAND 4, OHIO

▲ For more details circle **NED-7997** on enclosed inquiry slip ▲

DANLY
KNURLED SOCKET HEAD
Cap Screws
AND
Stripper Bolts

Knurled heads assure a firm finger grip for quick setting by hand . . . key type hexagon socket wrenches assure easy driving, even in awkward locations . . . precision threads assure greater thread bearing and resistance to stripping.

Send for this folder for complete catalog and purchasing information.

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois

PRECISION DIE SETS...TOOL, DIE AND GAGE MAKERS' SUPPLIES

▲ For more details circle **NED-7998** on enclosed inquiry slip ▲

PAGE FENCE *-Since 1883*
• AMERICA'S FIRST WIRE FENCE •

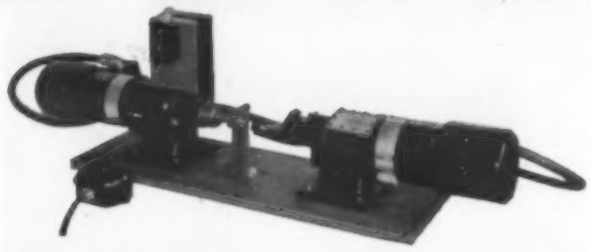
There's one *"Best"* for You

● Your question is how to know which fence best meets your needs for protection against common hazards. You'll get the answer if you ask us for booklet **DH-142.** Page offers a wide variety of Chain Link Fence and Gate styles and a choice of metals to give you the fence that is exactly right for you. And more—your good-looking, long-lasting fence will be expertly erected by the nearby Page Fence specialist. His is a local, responsible, experienced firm having a continuing interest in every fence it erects. We will send his name and address with your DH-142.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▲ For more details circle **NED-7999** on enclosed inquiry slip ▲



Faster Drilling of Cross-Holes

This simple set-up for drilling cross-holes is an example of one of many ways in which Govro-Nelson Automatic Drilling Units are being employed to speed up production and reduce production costs.

Designed for drilling cross-holes in 7 different sizes of fishing tackle swivels, the set-up of 2 Drilling Units, which operate simultaneously, makes possible an output of up to 1000 pieces per hour. The part is clamped and ejected automatically.

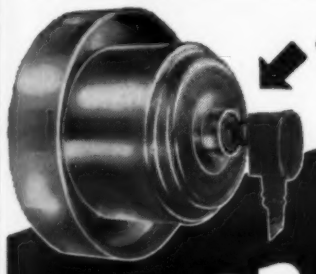
With slight changes, this inexpensive set-up is readily adaptable to drilling cross-holes in other parts of varying sizes and shapes.

If you have similar drilling operations, and would like to speed up your production rate, send samples and part prints and we shall be pleased to recommend the proper Automatic Units or quote on a complete set-up.

GOVRO-NELSON CO.
1933 Antoinette
DETROIT 8, MICH.

Automatic **DRILLING UNIT**

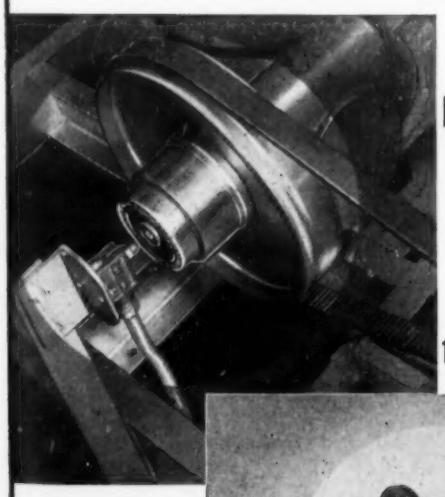
▲ For more details circle **NED-8000** on enclosed inquiry slip ▲



CUT-OUT POSITION

ANCHOR CUT-OUTS

INSTANTLY
SHUTS OFF MOTOR
WHEN AN OVERLOAD OCCURS
RESETS AUTOMATICALLY

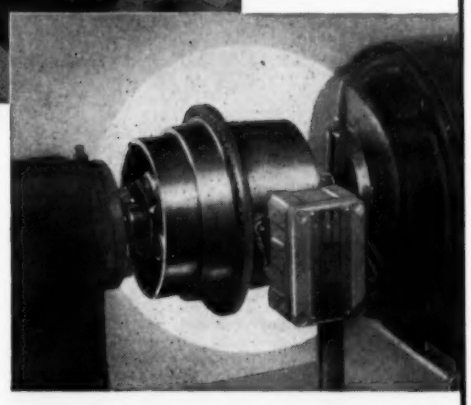


ANCHOR
CUT-OUT
PULLEYS

SIZE 0
20 to 150 in. lbs.

SIZE 10
50 to 300 in. lbs.

SIZE 20
1,000 to 10,000 in. lbs.



FLEX. COUPLING
FOR DIRECT DRIVES
10 to 2000 in. lbs.

Anchor Cut-Outs are time tested safety devices for machinery and conveyor drives. They eliminate "down-time" due to sheared pins. Many large companies are specifying them on products, as well as on manufacturing facilities. Get complete information, ask for Catalog 50-A.

ANCHOR STEEL & CONVEYOR CO.
DESIGNERS & MANUFACTURERS
6906 Kingsley Ave., Dearborn, Mich.

Firm _____
Mr. _____ Title _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle **NED-8001** on enclosed inquiry slip ▲

DUCT-SIZING SLIDE RULE
facilitates designing fan systems

By consolidating various reference charts on Ductulator multiple scaled circular slide rule, all duct sizing answers can be obtained with single setting of instrument. Knowing air volume and velocity, user can find friction loss per 100 ft of duct, diameter of round duct and dimensions of rectangular duct that will carry air load. When any known factor is set to coincide with known flow rate, all other factors can be read from same setting. Rule costs $1. Available from **Trane Co.**, Educational Div., 2018 Cameron Ave., La Crosse, Wis.

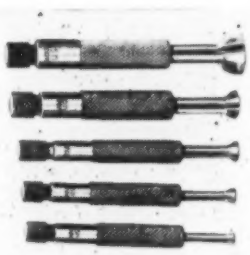
▲ For more details circle **NED-8002** on enclosed inquiry slip ▲

GEARED ANGLE DRIVE
1-hp unit in two or three-way style

Rated 750 lb-in. static torque, ANGLgear geared angle drive is available as model R-320 two-way or model R-330 three-way type. Standard gear ratio is 1 to 1, with 2 to 1 reduction as optional. Having shaft diameters of ⅝-in., drives can be used with either manual or power-operated systems. Special units with shaft extensions can be furnished on special order. Made by **Airborne Accessories Corp.**, 25A Montgomery St., Hillside 5, N. J.

▲ For more details circle **NED-8003** on enclosed inquiry slip ▲

SMALL HOLE GAGES
facilitate work in close quarters



Designed for measuring holes, slots, grooves and recesses ranging from 0.125 to 0.500-in. which are too shallow for conventional telescoping gage, these No. 830 small hole gages provide added convenience of extra short length. Gaging surfaces are formed with flat bottoms and gages are adjustable to size with convenient knurled knob at end of tool which provides smooth and sensitive adjustment and feel. When used with micrometer, size of any hole or slot can be obtained in 0.001 or 0.0001-in. increments. Made by **L. S. Starrett Co.**, Dept. ED, Athol, Mass.

▲ For more details circle **NED-8004** on enclosed inquiry slip ▲

Instead of this . . .

BETTER BUY BERNZ LP GAS TORCH!

A mighty mite for man-size jobs. Weighs only 2½ lbs., burns in *any* position, any time, even at minus 40° F. Complete with pencil flame and utility burners. Slick-as-a-whistle orifice cleans in 30 seconds. Inexpensive cartridge refill at any LP dealer's. BETTER BUY BERNZ, only portable torch with ICC approval.

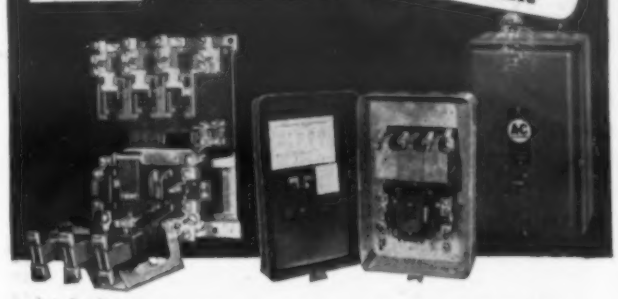
OTTO
BERNZ

OTTO BERNZ CO., Inc.
280 LYELL AVE., ROCHESTER 6, N. Y.
TORCHES • FIREPOTS • MECHANICS TOOLS

▲ For more details circle **NED-8005** on enclosed inquiry slip ▲

To Control ANY Motor

Specify an ALLIS-CHALMERS STARTER



ALLIS-CHALMERS size 0-3 across-the-line starters have double break silver to silver contacts that increase interrupting capacity and eliminates "dressing" contacts. Unhindered straight line vertical action eliminates wearing parts. Design and construction are engineered for long life — easy inspection. The only tool needed for inspection of replaceable parts is a screw driver.

This kind of quality engineering and easy maintenance design goes into all Allis-Chalmers Starters. And there is an A-C Starter for every motor need, regardless of application, horsepower or type. Send for bulletin 14B7132 which describes across-the-line starters for motors to 600 hp at 550 volts, and bulletin 14B6410 describing 2300 to 5000 volt motor starters. A-3126

ALLIS-CHALMERS, 918A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ For more details circle **NED-8006** on enclosed inquiry slip ▲

Better Heat Distribution WITH

McCORD Unit Heaters

HORIZONTAL TYPE HEATER

More Heat . . . Better Distribution

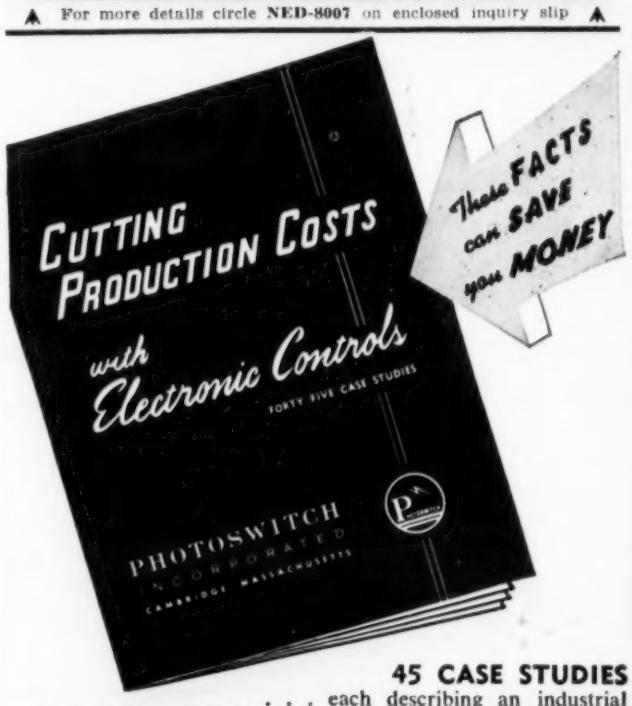
More heat, better distribution is the answer to any heating problem. McCord, because there is a model and type to meet each particular condition, will do a better heating job. Every improvement that engineers and the experience of many users could suggest is incorporated in the improved models of McCord Unit Heaters. Due to the design and careful attention to balance a new degree of quietness has been attained. The scientifically designed spiral fin tube heating surface provides maximum heat transfer capacity.

VERTICAL TYPE HEATER

McCORD CORPORATION
2580 E. Grand Blvd.
Detroit, Mich.

Specify McCORD ON YOUR NEXT JOB

▲ For more details circle **NED-8007** on enclosed inquiry slip ▲



45 CASE STUDIES

. . . each describing an industrial control problem which has been solved through the use of electronics. Not a catalog . . . it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today.

PHOTOSWITCH INCORPORATED
77 Broadway, Cambridge 42, Massachusetts

▲ For more details circle **NED-8008** on enclosed inquiry slip ▲

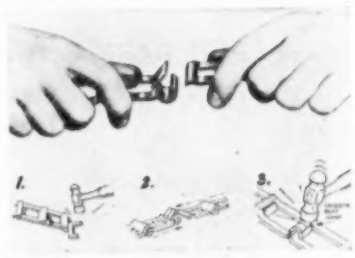
▲ For more details circle **NED-8009** on enclosed inquiry slip ▲

CONCRETE DRILL BITS are extra-short rotary type

Recommended for drilling holes for shields and anchors in concrete and masonry, Stubbies rotary drill bits have 4-in. overall length and are furnished in size increments of 1/16-in. for drilling from ¼ to ⅞-in. diameter holes. They have shank diameters of from ¼ to ½-in. and can be used in electric drills, air motors or hand braces. Drills use sintered tungsten-titanium carbide inserts for long wear and abrasive resistance. Made by **Concrete Termite Drill Co.,** 2110 Foothill Blvd., Pasadena 8, Calif.

▲ For more details circle **NED-8011** on enclosed inquiry slip ▲

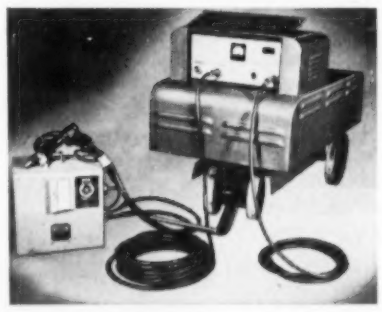
CHAIN BELT REPAIR LINK is locked securely by hammer blow



Broken chain belt links can be replaced quickly and easily by Quick-Change repair link. Device has special hook lip which slips into place with adjoining links without requiring belt slack and locks securely. Procedure requires removal of broken link and replacement with Quick-Change link, hooking device in place and locking link securely by few blows of hammer. Made by **Holly Sales Co.,** Dept. 1, Doan Bldg., Storm Lake, Iowa.

▲ For more details circle **NED-8012** on enclosed inquiry slip ▲

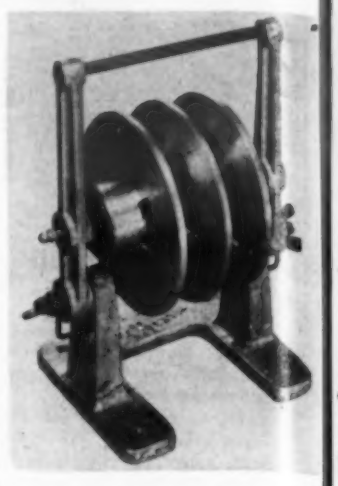
PORTABLE POWER UNITS for use with stud welding equipment



Developed to improve and extend stud welding applications, two portable power units consist of motor operated generator set capable of welding studs up to ⅝-in. diameter and battery operated unit which can be used for installing up to ½-in. studs. Both supply power to stud welding gun. Motor operated generator has performance equivalent to two conventional 400-amp generators connected in parallel and can be operated with either 220 or 440-v 60-cycle ac. Battery unit, illustrated, consists of twelve 6-v 150-amp storage batteries mounted on frame and covered with easily raised hood upon which is located automatic charging device. It is charged by plugging into 110-v ac outlet and is recommended for applications remote from power source. Made by **Morton Gregory Corp.,** Nelson Stud Welding Div., 2775 Toledo Ave., Lorain, O.

▲ For more details circle **NED-8013** on enclosed inquiry slip ▲

VARIABLE SPEED CONTROL



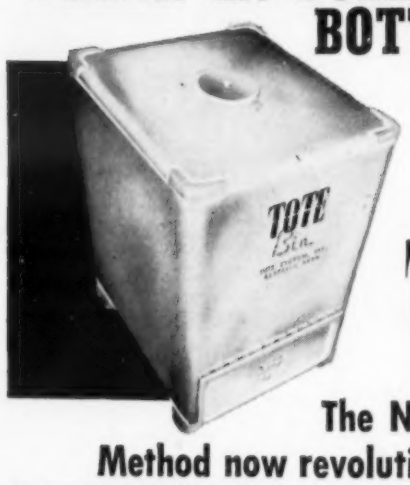
Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H. P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameters, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. Advt.

▲ For more details circle **NED-8015** on enclosed inquiry slip ▲

BREAK the BULK Material BOTTLENECK

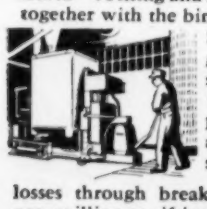


IN YOUR PLANT WITH Handy, Efficient TOTE* SYSTEM

The NEW Improved Method now revolutionizing BULK MATERIALS Handling in many industries

Modernizing methods for handling materials in bulk has become the watchword of progressive industries from coast to coast. For the first time in generations, TOTE SYSTEM* provides a practical, efficient, economical answer to most, if not all, your bulk materials handling, shipping and storage problems.

Briefly, TOTE is a system for handling such bulk materials as flour, sugar, cement, carbon black, paint pigment, powdered milk, and other dry granular or powdered materials, in convenient, gleaming 74 cu. ft. aluminum containers known as "TOTE BINS*". Filling and discharging equipment together with the bins, comprise the TOTE System. Advantages gained: elimination of sources of contamination and deterioration; prevention of rodent and insect infestation; stopping of container losses through breakage, spilling or sifting; elimination of disposable container expense; saving on damage claims, pilferage losses; retention of original quality of product. These are but a few of the important advantages you will enjoy once TOTE SYSTEM* goes to work for you.



Many industries throughout the nation are enthusiastic users of TOTE SYSTEM*. Let us send you their comments based on actual experience. Write at once for this and other detailed, illustrated information.

*Both TOTE and TOTE System Reg. U. S. Pat. Off.

TOTE SYSTEM, Inc.
720 South 7th St., Dept. D-1, Beatrice, Nebr.
Without obligation, send me information on TOTE

Name _____
Firm _____
Address _____
City _____ State _____

▲ For more details circle **NED-8010** on enclosed inquiry slip ▲

▲ For more details circle **NED-8014** on enclosed inquiry slip ▲

for wire marking speed*....

*or ECONOMY

E-Z Code Markers are instantly applied *without moistening.* They adhere permanently, even when pulled through conduit, yet are easily removable. Their tough, coated fabric is waterproof and weatherproof.

Clearly printed black-on-white for positive identification, even in dark corners. Individual markers quickly zipped off card by patented Speed Tab—adjacent markers still protected. For wire, cable, conduit, pipe, terminals, parts in production, shipping disassembled, etc. Available in 550 standard codes (including ASA and NEMA) or to your specifications.

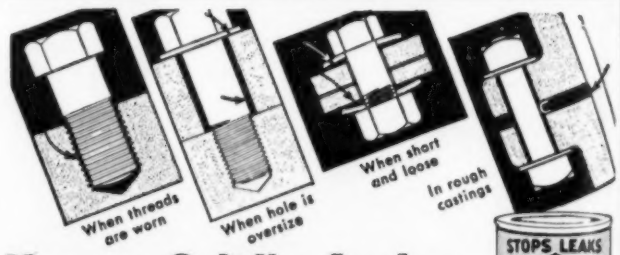
WRITE TODAY for E-Z Code samples

PACKED WITH FACTS new 12-page E-Z Code catalog—it's free!

E-Z CODE

WESTERN LITHOGRAPH CO., DEPT. NED-11, E. SECOND ST., LOS ANGELES 54, CALIF.

▲ For more details circle **NED-8016** on enclosed inquiry slip ▲



How to Solidly Anchor LOOSE BOLTS

Bolts with worn threads—undersize bolts in oversize holes—bolts passing through thin walls—bolts holding ill-fitting cast flanges—all can be tightened firmly with quick-setting Smooth-On No. 1 Iron Cement. Use it, too, to lock nuts tight, and to cover and protect countersunk bolt heads in metal or wood. These repairs stay tight because Smooth-On expands slightly as it hardens. Buy Smooth-On No. 1 in 7-oz., 1-lb., 5-lb., 20-lb., or 100-lb. size and keep it handy. If your supply house hasn't Smooth-On, write us. SO-291

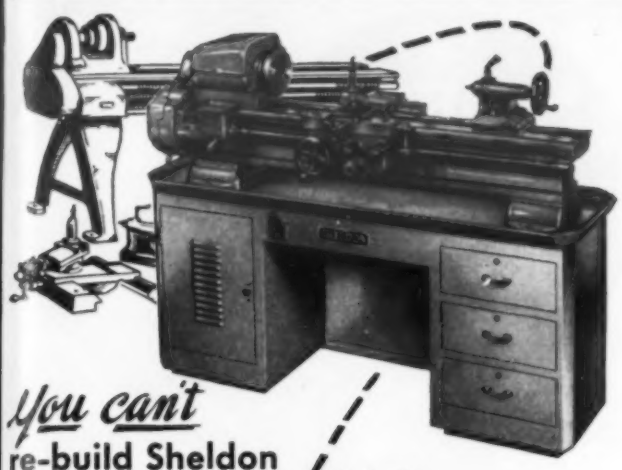
FREE REPAIR HANDBOOK

40 pages filled with time-saving, money-saving repairs on plant, shop and home equipment made with No. 1 and other Smooth-On Cements. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON CEMENT OF 1000 USES

▲ For more details circle **NED-8017** on enclosed inquiry slip ▲



You can't re-build Sheldon Efficiency into an old lathe...

This practice of re-building obsolete machine tools is just poor business. You just can't re-build the accuracy, speed, convenience, and production capacity of a modern, space saving Sheldon Precision lathe into the cumbersome shell of an old lathe of obsolete design.

First, you would have to build in "Zero Precision" Timken Taper Roller Bearing—there are no other bearings as accurate. You would have to bore a 1⅜" hole thru the spindle to get Sheldon's capacity; and hold run-out accuracy within 0 to .0003". You would have to re-grind and scrape bed ways within tolerances of .001" per ft., and hold transverse ways and parallel alignment within .005"; and replace your lead screw with one cut on the latest Pratt & Whitney thread miller, etc., thru Sheldon's 18 accuracy tolerances . . . and still you would not have the efficiency of a fast, convenient, space-saving and power-saving Sheldon Precision Lathe, which you can buy today from your tool distributor, fully assembled and ready for work. Don't rebuild, replace for efficiency!

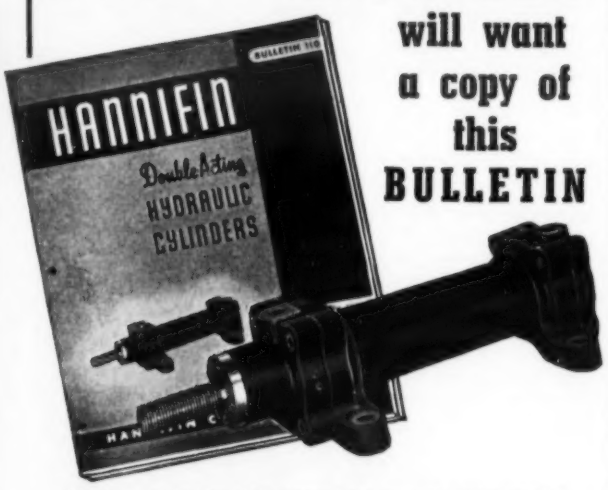
Write for Catalog

SHELDON
CHICAGO

Sheldon Machine Co. Inc., 4215 N. Knox Ave., Chicago 41, Ill.

For more details circle NED-8018 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN



It's easy to get the right answer for even the most special jobs when you use Hannifin's new hand-book on HYDRAULIC CYLINDERS. 52 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 12 standard bore diameters, 1" to 8" . . . any length stroke you specify . . . 11 standard mounting styles . . . standard, double end or heavy duty (2:1) piston rods . . . available with adjustable cushions . . . pressures to 1500 lbs. per sq. in. Special types to order. Write for Bulletin 110.

HANNIFIN CORPORATION

1127 S. Kilbourn Ave., Chicago 24, Ill.

For more details circle NED-8019 on enclosed inquiry slip

WHICH ANTHONY LIFT GATE HYDRAULIC WILL CUT YOUR DELIVERY EXPENSES MOST?

1. Anthony "Lift-Gates" for loading and unloading trucks are available with "Hydraulic Power" or "Spring Powered" closing.
2. Choice of "General Purpose" or "Ramp" type to meet every loading requirement. Light weight high tensile steel and aluminum alloy. 300 lbs. lighter.
3. Anthony also makes a "Lift-Gate" for ½ and ¾ ton pick-up trucks. Operates from truck motor.

WRITE FOR COMPLETE DETAILS

ANTHONY COMPANY

DEPT. 407 Streator, Illinois

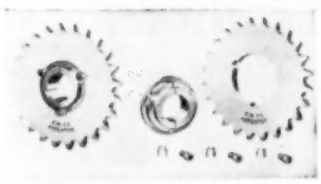
For more details circle NED-8020 on enclosed inquiry slip

HAND POWER TOOL facilitates precision work

Suitable for industrial production as well as for fine handicrafting, Handee '85' hand power tool and accessory kit performs such operations as grinding, drilling, polishing, sawing, cutting, sanding and engraving. Balanced and shaped to fit hand, tool has idling speed of 27,000 rpm and load speed of 20,000 rpm. It weighs 2 lb and chucks interchangeable spring collets of 1/16, 3/32 and 1/8-in. capacity. Cast-in boss just behind chuck holds easily attached routing and molding shoes and permits quickly regulated depth-of-cut adjustments to be made for 20 different molding cutters. Tool can be obtained for operation on either 110/120-v ac or dc or 220/240-v ac. When supplied with 41 matched attachments in fitted metal case, combination is designated as Handee Workshop. Made by **Chicago Wheel & Mfg. Co.**, Dept. NE, 1101 W. Monroe St., Chicago 7, Ill.

For more details circle NED-8021 on enclosed inquiry slip

DISK SPROCKET HUBS stocked in wide range of sizes



When sprocket plate is placed on Grip-Master hub, taper bushings inserted and head cap screws tightened, interchangeable disk sprocket assembly is ready for mounting on shaft. Frequently plate sprockets can be interchanged and mounted without removing hub from shaft. Steel hub is supplied bored, drilled and split ready to receive sprocket. Made by **Cullman Wheel Co.**, 1333 Altgeld St., Chicago, Ill.

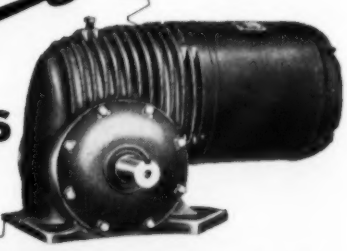
For more details circle NED-8022 on enclosed inquiry slip

LABORATORY FURNACE has temperature range up to 850° F

Designed to fit space facilities of average laboratory, model CF furnace can be obtained with work chambers measuring from 13 x 13 x 13 in. to 37 x 25 x 37 in. It is available in either direct gas-fired or electric type and utilizes cross flow convection heating with extra air volume to shorten preheat time, to provide for ample penetration of products and to reduce time for heat recovery after new loads have been added. Swinging doors permit location where headroom is scarce, and rounded corners and wrinkle gray finish add to appearance. Made by **Despatch Oven Co.**, 325 Despatch Bldg., Minneapolis 14, Minn.

For more details circle NED-8023 on enclosed inquiry slip

Specify COMPACT, RUGGED Century GEAR MOTORS



For Your High Torque Slow Speed Requirements

Specify Century Gear Motors for all your slow speed power requirements.

Century's line of gear motors has gained an enviable reputation, created by their successful performance on thousands of industrial machines. They are built to supply the right power at the right speed.

Century Gear Motors are engineered to maintain the high torque slow speed shaft in rigid alignment. The gear housing and mounting feet are cast in one piece to provide extra strength and rigidity.

Century Gear Motors are available in sizes from ⅛ to 3 horsepower —single phase, polyphase and direct current.

Century Electric Company
1806 Pine St. • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities
664R

For more details circle NED-8024 on enclosed inquiry slip

M & M solid blades are available up to 20" diameter; segmental blades, up to 70" diameter.

Be Assured of Both... with Motch & Merryweather CUT-OFF SAW BLADES!

Triple-Chip METHOD

You get high speeds and gratifying accuracy with M & M Triple-Chip Saw Blades. Square ends without burrs; no clogging of gullet, less strain per tooth, less heat, longer life, blades re-grindable, less cost per cut. Solid (smaller) blades can be furnished also in square tooth and plastic grinds.

Ask for our Bulletin 200-N.

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO
AT YOUR COMMAND • AN UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

For more details circle NED-8025 on enclosed inquiry slip

time to install... KIM Hotstart

REG. U. S. PAT. OFF.

electric pre-heater for Gas and Diesel engines

- ✓ Gives quick, easy starts
- ✓ Reduces motor wear
- ✓ Prolongs life of batteries
- ✓ Reduces fuel consumption
- ✓ Saves warm-up time
- ✓ Cuts cost of terminal heating
- ✓ For stationary or mobile engines—diesel or gas
- ✓ Four models—easily installed

It's this simple—equip your cars and trucks with KIM Hotstarts and you end major worries of winter operation. Engines purr like kittens. Starting is fast, smooth. You don't use as much fuel and you spend less on repair bills.

SEE YOUR DEALER OR WRITE FOR LITERATURE

Many of the smartest fleet operators in the country know KIM, use KIM, like KIM. Why don't you profit from their experience? Sold and installed by International Truck and Mack Truck dealers and by leading automotive suppliers. See them for information or write for literature.

KIM HOTSTART MFG. CO.
West 917 Broadway, Spokane 11, Wash.

For more details circle NED-8026 on enclosed inquiry slip

GOOD BRUSHES ARE HARD TO GET...

CABOT'S BRUSH CLEANER MAKES OLD BRUSHES LIKE NEW — KEEPS NEW BRUSHES IN TOP CONDITION

Smacks out hardened paint — dirt — grease right down to the heel. Fast — non-inflammable . . . won't harm bristles and settings. Comes ready to use — won't evaporate — economical because you can use it over and over again!

FREE SAMPLE

See for yourself. Send for yours today.

Samuel Cabot, Inc.
1153 Oliver Bldg., Boston 9, Mass.
Please send me a free sample of your fast, effective Brush Cleaner.
Name .....
Street .....
City .....State .....

SAMUEL CABOT, INC.

For more details circle NED-8027 on enclosed inquiry slip

Feeding Small Parts

In Oriented Position
At A Controllable Rate
Automatically
Single File

SYNTRON
"Vibratory"

SMALL PARTS FEEDERS
Speed Up Processing

—of various sized and shaped small parts — to automatic machinery, inspection belts, counting devices—feeding them out, one at a time in the desired, oriented position.

Controlled vibration does the job—3600 per minute.

Send samples of your troublesome parts for recommendation and quotation

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

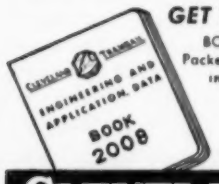
For more details circle NED-8029 on enclosed inquiry slip

STORING AND HANDLING 1728 REELS

The three racks shown above are 63 feet long and will accomodate 576 reels per row or a total of 1728 reels. This number of 24" reels will store 300,000 pounds of wire.

The reels are taken to or removed from the racks by means of a Cleveland Tramrail overhead rail system with easily operated chain hoists and special reel grabs. Each reel space is numbered and each reel is weighed before placing on racks, which makes keeping a perpetual inventory easy.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...



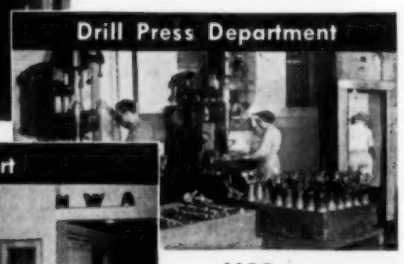
CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6620 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-8030 on enclosed inquiry slip

In Any Location—
A Quiet Spot for Telephoning

The modern, doorless Burgess-Manning Acousti-Booth provides a quiet spot for telephoning . . . in noisy locations anywhere. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private."



ALSO
- Banks
- Bus Terminals
- Railroad Stations
- Utility Plants

MAIL COUPON FOR FREE BULLETIN BURGESS-MANNING COMPANY
743-C East Park Ave., Libertyville, Illinois

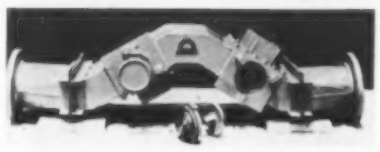
Please send booklet describing Burgess-Manning Acousti-Booths.

Name_____ Firm Name_____

Street_____ City_____

For more details circle NED-8031 on enclosed inquiry slip

PIPELINE MAGNETIC SEPARATOR
removes stray iron from liquids

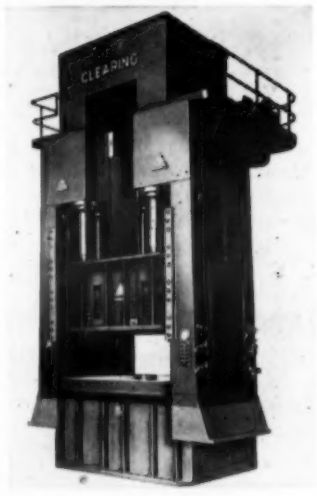


Ferrous particles can be removed from liquids, slurries and slips flowing in pipelines by Liquid Pressure Hump nonelectric magnetic separator. Usable in pipelines with diameters from 6 to 20 in., unit performs satisfactorily with materials flowing at volumes from 50 to 250 cfm depending upon consistency. Pressures up to 45 psi can be employed safely.

Flow-interrupting unit incorporates baffles which direct material flow 30 degrees from normal straight line so that two stainless steel plate-type magnets installed on opposite faces of hump can set up magnetic barrier in tandem. Stepped pole plates on down-stream side of each magnet provides recess from which entrapped iron cannot be dislodged. Pressure-tight hand holes in side plates facilitate cleaning of magnet faces, and neoprene gaskets insure against leakage. Made by **Eriez Mfg. Co.**, 1325 E. Twelfth St., Erie, Pa.

For more details circle NED-8032 on enclosed inquiry slip

HYDRAULIC PRESSES
for short or long run production employ two independent circuits



Of heavy-duty double action type, these hydraulic presses have two independent hydraulic circuits, one for blankholder slide and other for punch slide, each with its own separate pump. This arrangement precludes losses in blankholder pressure during punch stroke and permits pressure on each corner of blankholder to be adjusted individually for eccentric or irregular draws. Provision is made for slowing punch slide at instant blankholder slide is picked up on return stroke to eliminate shock.

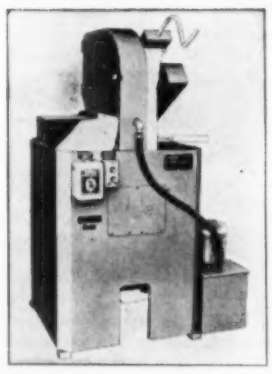
Press illustrated has 72 x 108-in. bed and is arranged for 18-in. draw and lift out including redraw work using inside blankholder. Presses can be obtained in any required size for short or long run production work depending on capacity of pumping equipment installed. Made by **Clearing Machine Corp.**, 6493 W. 65th St., Chicago 38, Ill.

For more details circle NED-8033 on enclosed inquiry slip

DO YOU KNOW? Development of new process which makes it possible to evaporate stainless steel on inside of glass walls of Geiger tubes and on the mica windows has resulted in substantially improved operating characteristics. Life of tubes is claimed to be increased tenfold and background is 30 per cent lower than previous tubes. Made by Tracerlab Inc., 128 High St., Boston 10, Mass.

For more details circle NED-8034 on enclosed inquiry slip

ABRASIVE CUTTING . .
Wet or Dry with this low-priced machine



The Model 15 Campbell Abrasive Cutting Machine will cut solid bar stock and tubing economically. Material may be steel of any analysis—annealed or unannealed—brass, monel, ceramic or phenolic plastic.

Wet model makes extremely smooth, clean cuts to a tolerance of a few thousandths—with little or no burr or burn.

Through manufacturing economies, this machine can be produced and sold at an attractively low price compared with previous comparable models.

For detailed information, write for Bulletin DH-102-C.

CAMPBELL MACHINE DIVISION
American Chain & Cable
941 Connecticut Avenue
Bridgeport 2, Conn.

For more details circle NED-8035 on enclosed inquiry slip

MIGHTY-MITE
THE ECONOMICAL WAY TO SCREEN LIGHT MATERIALS

SINGLE AND DOUBLE DECK MODELS

Speeds Up Sizing, Dedusting, Reclaiming
Put a Mighty-Mite to work and you'll minimize time and labor requirements for screening sand, candies, nuts, tumbler chips and hundreds of other materials. Safe, efficient, proven for light duty. Sizes 1½' x 4' to 2' x 8'. Send for folder, Dept. P.

Made By The Makers of SECO VIBRATING SCREENS

SCREEN EQUIPMENT CO., INC.
1752 WALDEN AVE., BUFFALO 21, NEW YORK
In Canada, United Steel Corp. Ltd., Toronto, Ont.

For more details circle NED-8036 on enclosed inquiry slip

Move it in a Jiffy!
The ALCO-LITE Type 600 Aluminum Warehouse Ladder

The ALCO-LITE Type 600 weighs only 40 lbs. Rear legs are equipped with replaceable rubber-tired casters so that it can be quickly moved from place to place. Ideal for warehousing or general maintenance work. Can be supplied in folding type at no additional cost. Type 601 (not shown) has high handrail surrounding platform.

Write for Catalog containing specifications for the Type 600, as well as eight other types of ALCO-LITE Aluminum Ladders.

Pioneer Builders of Aluminum Industrial Ladders

ALCO-LITE ALUMINUM LADDERS
ALUMINUM LADDER COMPANY
346 CARBIS STREET • WORTHINGTON, PA.

For more details circle NED-8037 on enclosed inquiry slip

KLIXON THERMOSNAP SWITCHES
Provide Accurate Temperature Control

Klixon C4370 *fixed temperature* Thermosnap Switches give accurate temperature control in such equipment as space heaters, sterilizers, electrical appliances, small water heaters, unit heaters and other products.

Klixon Thermosnap Switches can be supplied in various temperature differentials in settings from minus 10° to 550°F.

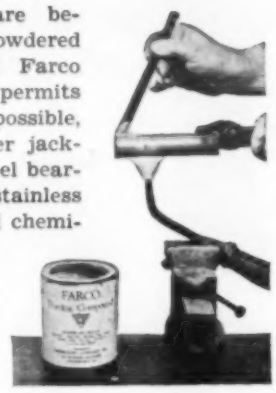
Klixon Type C4370 Controls are listed by Underwriters' Laboratories for use where proper terminal enclosure is provided. This eliminates further testing of the thermostat when applied to products requiring Underwriters' listing.

Write for complete information today.

KLIXON
SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1911 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-8038 on enclosed inquiry slip

TINS ALL METALS

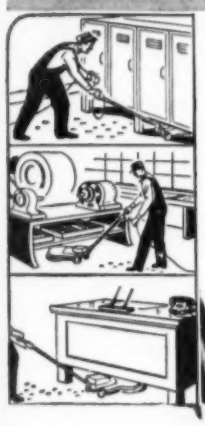


Difficult tinning problems are being solved with a new powdered solder containing flux, called Farco Tinning Compound which permits jobs heretofore considered impossible, such as tinning cast iron water jackets and cylinder heads, cast steel bearings, pipes, cylinders and stainless steel equipment. The powerful chemical formula will lift the oxides from aluminum, and on other metals is more drastic than ordinary acids. Makes it possible to lift the scale and tin black iron in one operation. Stability of the new powder makes it possible to judge heat on large bearings by its action in turning liquid when proper temperature for tinning is reached. Although strong enough to remove scale, dirt, and tin rusty surfaces thoroughly, it does not produce harmful fumes nor will it burn the skin. When used on gasoline motors, Diesel and marine engine bearings it is reported to increase performance life 100%. The compound may be applied with either torch or soldering iron depending on thickness of metal, and any good grade of solder may be used. Packaged in 1½ lb. cans, price $3.00 f.o.b.. *Advt.*

FARRELLOY CO.

1246 North 26th St. **Phila. 21, Pa.**

▲ For more details circle **NED-8039** on enclosed inquiry slip ▲



The adjustable handle makes it possible to scrub and wax polish in congested places where hand cleaning was necessary before—around and under machines, counters, desks, lockers, etc.

Operator can raise or lower handle to any angle within an 80 degree arc and shove the Lawlor under anything where there is at least a 9½" opening and as far back as 4½ feet.

Three models—a size to suit every need.

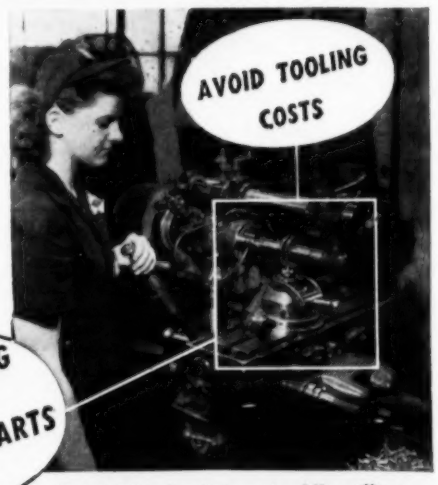
Write for literature on adjustable handle models and other Lawlor units.

There's a complete line of Lawlor Floor Maintenance Equipment—scrubbers, wax polishers, mopping tanks, mop wringers.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 years
131 N. Aberdeen St., Chicago 7, Ill.

▲ For more details circle **NED-8040** on enclosed inquiry slip ▲

Zagar makes a complete line of universal holding and indexing fixtures, including air-operated types.



Also, the remarkable Zagar Gearless Drillhead drills any number of holes in any pattern as close as twice the drill diameter.

FOR HOLDING AND INDEXING PARTS

Zagar 1" index fixture straddle milling squares on small aircraft parts.

Avoid expensive set-ups and special jigs and fixtures by using the same Zagar chuck for a great variety of jobs. **Merely change collets from job to job.** Depend upon this low-cost, accurate method of holding and indexing; easy, quick, time-saving, production-increasing. Ideal for milling, drilling, shaping, tapping, grinding and other kinds of machining, especially on short runs. Write for a free demonstration on that tough application.

Sizes 1 16" to 2 1/8" diameter, hexes, squares and soft blanks.

Ask for Catalog N-11.

ZAGAR TOOL, INC.
24000 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle **NED-8041** on enclosed inquiry slip ▲

IMPACT DRIVER
tightens or loosens fasteners

Screws, nuts or bolts can be tightened or loosened quickly and easily by this Impakdriver with twist in desired direction and a few raps with hammer. Cam mechanism translates impact energy of hammer blow into large amount of torque. Tool is especially useful for removing rusted or frozen nuts, bolts or screws, as well as for working in places that are difficult to reach.

Tool is available singly or in kits containing various combinations of sockets and screwdriver bits. Accessories include 7/16, ½ and 9/16-in. hex sockets; ¼ and ⅜-in. plain screwdriver bits; and No. 2 and 4 Phillips bits. Made by **H. K. Porter, Inc.,** 75 Foley St., Somerville 43, Mass.

▲ For more details circle **NED-8042** on enclosed inquiry slip ▲

SCORING ATTACHMENT
fits corrugated board cutter

Designed to aid packaging with corrugated or other materials by scoring on correct lines for folding, this scoring device is intended for use in conjunction with Chippacutter material cutter (*June* 1950 *issue*). It also enables manufacturers to make their own sample cartons by scoring material in proper place. Cutter and scoring attachment can be used on many industrial materials including single and double face corrugated board, linoleum, rubber matting, aluminum foil, plastics and all types of papers. Made by **Chippewa Paper Products Co.,** Dept. D, 3315 W. 48th Place, Chicago 32, Ill.

▲ For more details circle **NED-8043** on enclosed inquiry slip ▲

REVERSIBLE PIPE TONGS
will turn pipe in either direction

Action of Vulcan pipe tongs can be reversed quickly and easily without removing tongs or loosening chain. Outer jaws can be removed for efficient gripping of narrow beads and flanges. These jaws are also reversible end for end. Made entirely of wrought steel with all parts interchangeable, tongs are available in four sizes for pipe and fittings from ¼ to 8 in. Made by **J. H. Williams & Co.,** Dept. NED-11, 400 Vulcan St., Buffalo 7, N. Y.

▲ For more details circle **NED-8044** on enclosed inquiry slip ▲

Industrial Gears

STAND OUT

. . . Because they are engineered for the job—cut with precision and stand the test of continued use.

When you specify INDUSTRIAL GEARS for your jobs you get the benefit of many years of engineering experience. We study your problem and work with you as a part of your organization rather than a factor outside it. This close contact enables quick tooling—dependable workmanship—on time delivery.

We cut GEARS—SPLINES—SPROCKETS—RACKS—with all machining operations involved.

Send us your next order and/or, if you want a glimpse of our operations ask for "A Pictorial Trip Through Our Plant."

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

▲ For more details circle **NED-8045** on enclosed inquiry slip ▲

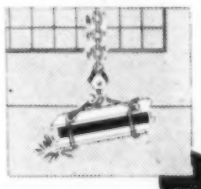
FLOORS

for all industries and traffics. Materials only or completely laid.

INSTALLED

quickly, with a minimum dislocation of production.

TO MEET EVERY DEMAND



EMERY FLOORS
COMPOSITION FLOORS
MASTIC FLOORS

SUPPLIERS TO THIS NATION'S INDUSTRIAL LEADERS:
A.C.F.-Brill Co • Allis-Chalmers American Radiator & Standard Sanitary Corp • Bethlehem Steel Co. Budd Co • Crown Cork & Seal Co. E. I. duPont deNemours & Co. Glenn L. Martin Co • Hershey Chocolate Co • International Latex Jones & Laughlin Steel Co. Pittsburgh Plate Glass Co • U. S. Steel • Weirton Steel Co. Westinghouse Electric Corporation. *and a host of other manufacturers demanding specialized floors!*

Write for free information to DEPT. G.

FLASH-STONE COMPANY, INC.
ERIE AND PULASKI AVES., PHILA. 40, PA.

▲ For more details circle **NED-8046** on enclosed inquiry slip ▲

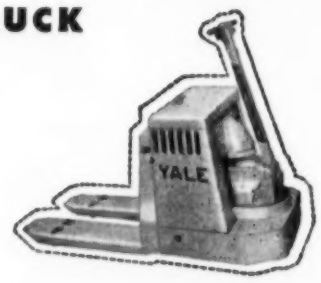
for narrow aisles *for freight cars*

NOW "STUBBY!"

for highway trucks

A SHORTER YALE WORKSAVER ELECTRIC TRUCK

Only "Stubby" Worksavers have all these advantages



- 6 inch shorter length
- Power-packed Drive Unit with improved motor efficiency
- New, Better Hydraulic "Dual-Lift" Mechanism
- Operational Controls centrally located on handle
- Easy steering, ball bearing steering ring with self-aligning features
- Doubly safe positive acting Safety Brake
- Widely spaced, floor protecting dual trailing wheels
- Large diameter long wearing drive wheel
- Double Battery Protection
- No Flexing of Electrical Wires in handle control
- Spark Enclosed Features available

Write for bulletin P-1206 (Platform Type) or P-1207 (Pallet Type), today!

THE YALE & TOWNE MANUFACTURING CO.
ROOSEVELT BOULEVARD PHILADELPHIA 15, PA.

M-22

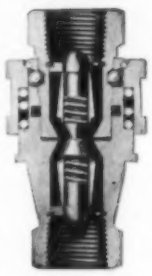
▲ For more details circle **NED-8047** on enclosed inquiry slip ▲

HANSEN

QUICK CONNECTIVE HIGH PRESSURE TWO-WAY SHUT-OFF COUPLINGS

Both ends of line are positively sealed when you disconnect the Hansen High-Pressure Two-Way Shut-Off Coupling. To connect, merely pull back sleeve and push plug into socket. Identical torpedo type valves in plug and socket permit free flow of gas or liquid. To disconnect, pull back sleeve—coupling disconnects and valves automatically and instantly seal both ends of line.

Where fluid lines may be damaged by sudden strain, coupling can be mounted in bracket to disconnect automatically—leaving fluid lines free, positively sealed, and—undamaged.



Series HP8000

Also straight through, and one-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

▲ For more details circle **NED-8048** on enclosed inquiry slip ▲

TRU-LAY Push-Pull is precision-made. Therefore it . . .

- . . . is positive in action as a steel rod, yet flexible as wire rope
- . . . transmits action over long or short lengths, with few or many bends
- . . . will operate while flexing, with practically no lost motion
- . . . is made in capacities up to 1000 pounds input
- . . . is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

(to our Detroit Office) for bulletin of information about TRU-LAY Push-Pull.

6-235 General Motors Bldg., Detroit 2
•
1119 Santa Fe Avenue, Los Angeles 21
•
Bridgeport, Conn.

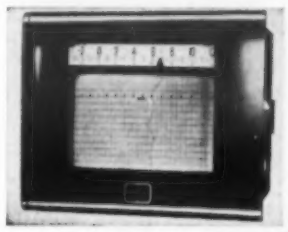
ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

Please send me copy of descriptive bulletin DH-87-D-1.

Name _____
Company Name _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle **NED-8049** on enclosed inquiry slip ▲

STRIP-CHART INSTRUMENT measures in terms of impedance



This strip-chart Dynamaster high speed self-balancing alternating current bridge is designed for measuring temperature, resistance, conductivity, strain, inductance or other variables which can be measured in terms of combined reactance. In addition, it can be used for electric power totalization and as receiver for Metameter system of telemetering. Measured variable is recorded on chart 11¼ in. wide and indicated on large scale that is legible at a distance. Instruments can be obtained for as many as 16 different records on same chart, and models are offered for full-scale pen travel in 7, 3 and 2/3-seconds with full range of standard chart speeds from 1 in. per hour to 120 in. per minute. Instrument is housed in moisture, fume and dust-proof case suitable for wall, flush-panel or front-of panel mounting. Made by **Bristol Co.**, 30 Bristol Rd., Waterbury 20, Conn.

▲ For more details circle **NED-8050** on enclosed inquiry slip ▲

OIL-RESISTANT WIRE requires no lead covering

Listed by Underwriters', Geotrol gasoline and oil resistant wire is designed for wiring in conduit to gas pump islands and for lighting circuits at refineries and similar places where oil products are likely to cause deterioration. Conductors are insulated with vinyl compound and sheathed in jacket that is highly resistant to petroleum products. Solid conductors in sizes 14, 12 and 10 AWG are available with black, white, red, green, orange, blue and yellow insulation. Made by **General Electric Co.**, Construction Materials Dept., 1285 Boston Ave., Bridgeport 2, Conn.

▲ For more details cricle **NED-8051** on enclosed inquiry slip ▲

FACE SHIELDS two types of headgear offered

Facial protection where chips, sparks or chemicals are encountered is afforded by these safety face shields. One style of headgear has open top for ventilation while other is equipped with overhead brow guard or spark deflector. Headbands are formed to fit contour of head. Rear section is swiveled to permit up and down movement while size adjustment mechanism is enclosed within flat smooth sleeve around rear headband. Another band across top of head keeps shield from slipping down. Interchangeable windows and leather sweatband snap into place quickly. Clear, green or wire screen windows are available in sizes and thicknesses to meet every requirement. Made by **Fendall Co.**, 4633 N. Western Ave., Chicago 25, Ill.

▲ For more details circle **NED-8052** on enclosed inquiry slip ▲

BLACK DIAMOND
PRECISION DRILL GRINDER

SHARPEN ALL SMALL DRILLS QUICKLY—EASILY—ACCURATELY. STOP DRILL BREAKAGE AND WORK REJECTS. INSURE PRECISION DRILLING WITH A BLACK DIAMOND.

Black Diamond Grinders cut 50% and more on drill sharpening and drilling costs. They sharpen small drills so efficiently and accurately that drill breakage and work spoilage are reduced to an absolute minimum.

Anyone can operate a Black Diamond Grinder, can keep all small drills sharp—and true centered with smooth lips accurately ground to the same length, correct angle and clearance for fast, precision drilling.

The built-in Diamond Point Dresser, is instantly available to keep the grinding wheel sharp cutting and the Web Thinning Attachment cares for all types of Notched Points.

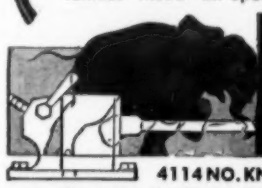
If you use small drills, singly or in gangs, this moderately priced grinder will keep any quantity sharp, ready for use. You should own a Black Diamond. Write for New Bulletin.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ For more details circle **NED-8053** on enclosed inquiry slip ▲

READY!
AIR CYLINDERS AND VALVES

With a valve to suit the job air cylinders can be made to work wonders. Mead Air Valves, Single and Double Acting Air Cylinders, will help you cut costs, speed up work. Write for complete new Catalog of famous Mead air-operated devices!



MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. NA-110, CHICAGO 41, ILL.

▲ For more details circle **NED-8054** on enclosed inquiry slip ▲

WHERE AND WHEN YOU NEED IT!

PORTABILITY is feature of new SPO Series No. 76 pneumatic vibrators. 8 sizes of this powerful, dependable unit are available to meet every vibration need in handling sand, gravel, chips, lime, and other granular or powdered materials.

Series 76 impact vibrators are recommended for use on bins, hoppers, chutes, and match plates. Air-operation assures economical use, full portability, and minimum maintenance.

Only SPO vibrators incorporate a pressed metal cylinder liner which provides for permanent lubrication, long service life, and maximum efficiency of operation.

SPO Series 76 vibrators deliver from 2200 to 6000 impacts per minute, depending upon size, operating on standard line pressure of 80 psi. Speed of vibration is regulated by varying line pressure. Piston diameters range from ½ to 2½ inches.

SPO re-build service will keep your SPO VIBRATORS IN NEW CONDITION. Send your SPO home for repair.

Write today for catalog

SPO INCORPORATED
6475 Grand Division Ave., Cleveland 5, O.

▲ For more details circle **NED-8055** on enclosed inquiry slip ▲

New!
TRANSALOID
TRANSPARENT NEGATIVE PAPER
Saves up to 50% in costs!

The ideal medium for true to scale reproductions of tracings, all types of diazo prints, white prints, and for making offset plates

• It's good business to keep up to date on new and improved products even if your present materials seem to be satisfactory. Transaloid's versatility makes it a natural in any reproduction department. Ideal for making diazo and white prints in quantity. Stands up without curling or turning brown. Excellent for use in making prints from discolored copy. Makes fine offset plates including halftones.

Transaloid is the answer to dependable, lower cost negative material. One large industrial organization reports on savings of 33⅓% in costs. Test it in your own plant at no risk to you.

We will send you 1 dozen sheets 10"x12" Transaloid Negative Paper at the special price of $2.00 postpaid. If you are not completely satisfied, we'll refund your money.

The Haloid Company, 50-110 Haloid St., Rochester 3, N.Y.
BRANCH OFFICES IN PRINCIPAL CITIES

▲ For more details circle **NED-8056** on enclosed inquiry slip ▲

STOP DUSTS

. . . from Any Size Grinder

IMMEDIATELY . . . With DUSTKOP

22 Different Dustkops . . . Standard, Pretested.

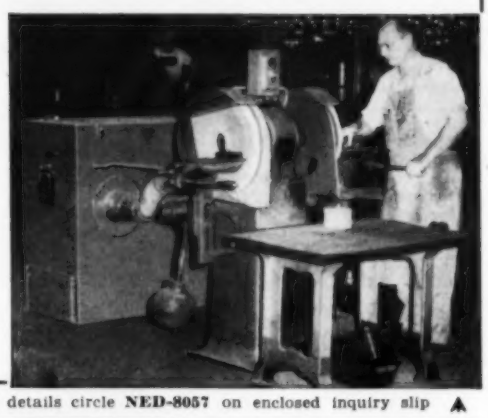
300 cfm to 9,000 cfm

For all kinds of dusts.

Ask for Catalog 605-2. Describe dust problem for recommendation—No obligation.

Aget-Detroit Co., Ann Arbor, Michigan

That's a Model #1150; takes all the dust from two 18" wheels.



For more details circle **NED-8057** on enclosed inquiry slip

rolls this tube sheet in HALF THE TIME!

Tube rolling jobs like this go TWICE AS FAST with the new, improved AIRETOOL Tube Rolling Control. Even inexperienced operators roll tubes with uncanny accuracy and greatly increased speed.

MOBILE UNIT

8 IMPORTANT ADVANTAGES

- **The original control calibration is permanent . . . needs no adjustment.**
- **Relay operation is accurate and free from chatter.**
- **Employs or needs no delicate electronic tubes.**
- **No voltage regulator necessary for regular power sources.**
- **Minimum number of moving parts to wear out.**
- **Control consumes minimum current . . . delivers maximum power to motor.**
- **Every Control individually calibrated and shop tested before delivery.**
- **Designed for field and maintenance shop work as well as for new work. Available as a mobile unit.**

PROVED BEST in LAB . . . SHOP . . . FIELD

Test it . . . compare it. Results prove that the AIRETOOL control is the best obtainable at any price. Cash in on these benefits now. Write the AIRETOOL Manufacturing Co., 308 S. Center St., Springfield, Ohio.

THERE'S AN AIRETOOL TUBE CLEANER AND TUBE EXPANDER FOR EVERY TYPE OF TUBULAR CONSTRUCTION

AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

BRANCH OFFICES: New York, Philadelphia, Chicago, Houston, Tulsa, Baton Rouge

For more details circle **NED-8058** on enclosed inquiry slip

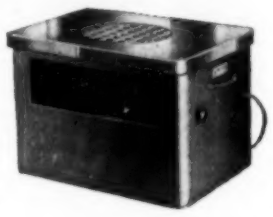
FILTER UNIT incorporates dual filter chambers

Constructed of 316 stainless steel, this filter unit employs chambers with 10 and 20 sq ft of filtering area as well as precoat tank. Filter chambers can be operated simultaneously with precoat tank or singly as required. Choice of 30, 20 or 10 sq ft filtration area is obtained for peak operating efficiency with various-size batches. Permanent filtering elements within chambers can be cleaned easily by backwash system. Made by **Titeflex, Inc.**, 548 Frelinghuysen Ave., Newark 5, N. J.

For more details circle **NED-8059** on enclosed inquiry slip

PORTABLE HUMIDIFIER maintains proper moisture content

Measuring 14½ x 12½ x 11½ in., this portable electrically heated humidifier can vaporize from ½ to 2½ pt of water per hour to provide correct relative humidity in 12,000-cu ft per hour air output. Unit has 3½-gal reservoir for long operation between fillings. It is recommended for use in offices and plants to offset deleterious effects of dry high-temperature air. Made by **Kauffman Air Conditioning Co.**, 511 N. Taylor Ave., St. Louis, Mo.



For more details circle **NED-8060** on enclosed inquiry slip

TAPE DISPENSER-SLITTER cuts and measures automatically

In addition to automatic feeding, measuring and cutting pressure-sensitive tapes, Big Inch No. 4 tape dispenser will slit strip as it is dispensed. Four-strip slitter model is designed to provide either two ½-in. or four ¼-in. strips. When set to feed 1½-in. lengths, two strokes of feed handle provide eight strips held in convenient position to pick up and apply. Machine can be preset also to measure 2¼, 3 and 3¾ in. strips. Dispenser can slit and cut such pressure tapes as cloth, paper and vinylite electrical. Made by **Better Packages, Inc.**, Dept. NED, 255 Canal St., Shelton, Conn.

For more details circle **NED-8061** on enclosed inquiry slip

TAKES THE POUNDING OF MILLIONS OF FEET!

PABCO MASTIPAVE

AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

Here's what the ILLINOIS CENTRAL RAILROAD has to say about PABCO MASTIPAVE . . . "Two years ago we covered the wooden flooring leading to the train platforms in our Randolph Street suburban passenger station with Grip-Tread Mastipave. More than 50 million pairs of feet have walked over this flooring and it is still giving excellent service.

"Before using this covering we had a problem with passengers slipping on the wooden flooring when it became wet. Mastipave has made a real safety contribution in that it has eliminated slipping hazards."

25 years of proved performance! Pabco Mastipave—both regular and non-slip Grip-Tread types—costs little, looks good, wears even better! Available in roll goods or tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!

(Mail to Dept. L, nearest office)

PABCO PRODUCTS INC.

New York 16 Chicago 54 San Francisco 19

For more details circle **NED-8062** on enclosed inquiry slip

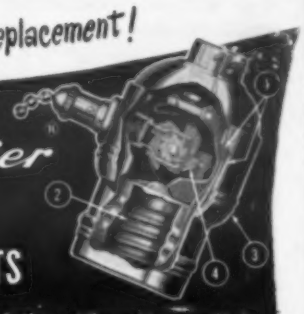
Stop costly socket replacement!

NEW

Levolier

MODEL 4100 INDUSTRIAL SOCKETS

with the proven mechanism of the *Levolier* switch



Constructed to outlast any socket you've ever used. The new Levolier 4100 Series Industrial Sockets are built with extras throughout . . . extras that eliminate the trouble spots found in ordinary sockets. Just check these features:

1. DOUBLE WALL THICKNESS
Cap and casing overlaps resulting in double wall thickness support for the lever.

2. HEAVIER SCREW SHELL
Sturdily constructed throughout with bronze screw shell .006 heavier than standard.

3. CAP AND CASING LOCK
Threaded collar locks cap and casing together, cannot pass over shade threads.

4. USES LEVOLIER SWITCH
Time tested Levolier switch mechanism — ultimate in quality for over 30 years.

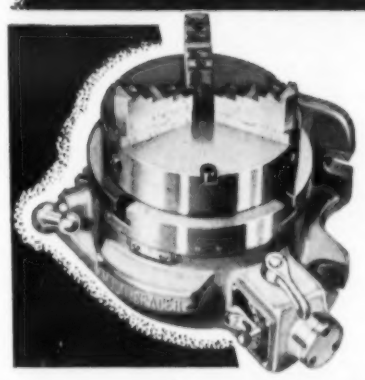
In addition, the 4100 Series socket has convenient terminals for easy installation, universal lever switching action, extra heavy fibre insulating liner. Underwriters' Laboratories, Inc. Inspected, 660 watt—250 volts—⅛" cap. No. 4103 same with ⅜" cap.

For New Catalog No. 49 write: McGill Manufacturing Co., Inc., 151 N. Campbell St., Valparaiso, Ind.

McGILL® electrical specialties

For more details circle **NED-8063** on enclosed inquiry slip

New Indexing Fixture with Built-in Selector



THE NEW GORTON Multi-Spacer

A time-saver for all types of milling, drilling, boring and grinding operations. Eliminates extra job set-ups. Features built-in automatic selector; permanent index discs; no loose parts — no discs to change; 9" dia. table; sealed mechanism; vertical or horizontal set-up; milled base for ½", ⅝" or 11/16" keys. Available with seven positions . . . 2, 3, 4, 6, 8, 12 and 24 divisions.

FREE BULLETIN!

For detailed information on the Multi-Spacer and numerous other Gorton Time-saving Machine Tool Accessories write today for Free Bulletin No. 1317.

GEORGE GORTON MACHINE CO.
1911 RACINE ST., RACINE, WISCONSIN

For more details circle **NED-8064** on enclosed inquiry slip

More for your money!

New STEELITE® WHEELS — with sealed-in ball bearings that keep grease in, dirt out and eliminate axle wear—make American Hand Trucks a better buy than ever! **And most popular models now sell for less than before!**

The side rails and cross bars of these familiar red trucks are channel-section steel for hardest service. Pressed-steel bolted construction keeps maintenance costs down. Light weight and fingertip balance make them the easiest-handling trucks you can buy!

Choose American Hand Trucks from 50 types and sizes for most efficient material handling at lowest cost . . . stocked by distributors everywhere.

AMERICAN PRESSED-STEEL HAND TRUCKS

The American Pulley Company

4296 WISSAHICKON AVE., PHILA. 29, PA.

Please mail free American Hand Truck Bulletin to

NAME _____ TITLE _____

COMPANY _____

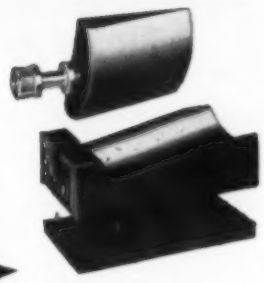
ADDRESS _____

CITY _____ ( ) STATE _____

For more details circle **NED-8065** on enclosed inquiry slip

NEW Empco JACK Gives you Quick Accurate Machine Leveling and it ABSORBS VIBRATION

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.



VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

For more details circle NED-8068 on enclosed inquiry slip

GPX... Georgia-Pacific's plastic-faced plywood, with a satin-smooth, armor-hard surface that is part of the plywood itself, not merely an applied surface layer, is the perfect material for pallets. Extra strong, GPX won't splinter or chip—is super-smooth to protect the most delicate load. Long-lasting GPX is economical because pallets made from it can be used long after pallets of other materials have worn out.

Industrial users are also finding that GPX is ideal for instrument assembly-line tables, storage bins, fume ducts and countless other plant applications.

GPX is Weatherproof	GPX is Water Resistant
GPX is Abrasion Resistant	GPX is Stain Resistant
GPX is Vermin Resistant	GPX is Smooth
GPX is Extra Strong	GPX is Workable
GPX is Durable	GPX is Attractive

GEORGIA—PACIFIC
PLYWOOD & LUMBER CO.
Wholesale Distribution Yards in: BOSTON • CHICAGO • PHILADELPHIA • PORT NEWARK

FOR COMPLETE DATA, FILL IN AND MAIL THIS COUPON TODAY:

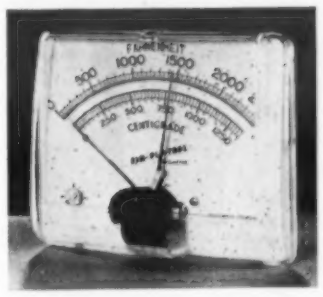
Georgia-Pacific Plywood & Lumber Co.
1258 Southern Finance Building
Augusta, Georgia

NAME.....
FIRM NAME.....
FIRM ADDRESS.....
.....
POSITION.....

Please send me the GPX Use Folder

For more details circle NED-8069 on enclosed inquiry slip

CONTACT METER-RELAY provides 4-in. scale length



Made as microammeter, milliammeter and ammeter as well as voltmeter and millivoltmeter, this model 451-C 4½-in. Simplytrol contact meter-relay can be obtained for either alternating or direct current service. Contact setting is adjustable to any point on scale arc, and both single and double contact arrangements are available to provide high limit, low limit or both. Contacts are released by interrupting locking circuit either manually or by automatic interrupter. This arrangement assures positive contact without chattering or floating, and spring action provides clean break to separate contacts. Current and voltage ranges from 0 to 20 ma and 0 to 5 mv are standard for this type of controlling meter. Made by **Assembly Products, Inc.**, 1002 Bell St., Chagrin Falls, O.

For more details circle NED-8070 on enclosed inquiry slip

WHEEL MOUNTED SWIVEL-PILER can direct and handle up to 50 tons of various bulk materials per hour

Designed for ground level storage, wheel mounted swivel-piler is recommended for handling granular or small lump materials. Material is dropped on short high speed belt held in concave path by idler disk on each edge, and centrifugal force presses material against belt until it attains belt speed before being thrown off in steady stream. Angle of throw can be adjusted from 8 to 40 degrees to provide pile height from 10 to 25 ft. Horizontal movement is attained by cocking small steering wheel and swiveling whole unit about its center axis. Unit can be powered with 5-hp motor or gasoline engine.

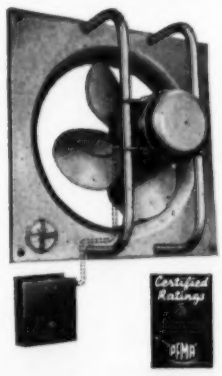
Conveyor mounted swivel-piler can be obtained to extend storage range of fixed or portable conveyors such as are used in handling mine tailings and gravel. This unit is supplied with adjustable mounting brackets to fit any conveyor and with swivel crank and cable for controlling direction of throw. Thrower unit is powered by 2-hp motor. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

For more details circle NED-8071 on enclosed inquiry slip

DO YOU KNOW? Powered by 1½ or 2-hp Briggs & Stratton gasoline engine, 154-lb Bantam riding type tractor attains speed of 4½ mph and will pull lawn mowers, snow plows, industrial trucks or trailers. It has rubber tires, differential drive rear axle, steering front wheel and spring seat. Made by Standard Mfg. & Sales Co., Lebanon, Ind.

For more details circle NED-8072 on enclosed inquiry slip

Peerless Electric TYPE PVS EXHAUST FANS



These fans are "all Peerless"—completely designed and manufactured by The Peerless Electric Company, manufacturer of fans and motors since 1893. Both motor and fan are designed to work together as a unit. **PERMANENT SPLIT CAPACITOR MOTOR**—No internal switches or mechanical parts to fail and cause breakdowns. Totally enclosed to exclude dirt and moisture. **QUIET OPERATION**—Wide heavy gauge steel blades rotating at slow speed to assure rated capacity at low noise level. **FOUR SIZES**—Fans 16", 18", 24", 30" dia.; motor H. P. ⅛, ⅙, ¼, ½; CFM: 2150, 2900, 4550, 7375; frame sizes: 24", 26", 34", 40" square. **HORIZONTAL OR VERTICAL MOUNTING**—Ball bearing in rear hood to take end thrust in all positions. **FURNISHED COMPLETE**—Controller for single speed, 2-speed, or 3-speed, furnished as ordered. **EASY TO INSTALL**—Requires only 4 or 6 lag screws or bolts to mount. **FINISH**—Gray Hammerloid baked enamel. **RATINGS**—According to National Association of Fan Manufacturers and American Society of Heating & Ventilating Engineers. **GUARANTEED** against defective workmanship or material for a period of one year from date of shipment from factory. Registered serial number identifies immediately for spare parts or duplicates. Write for complete specification sheet.

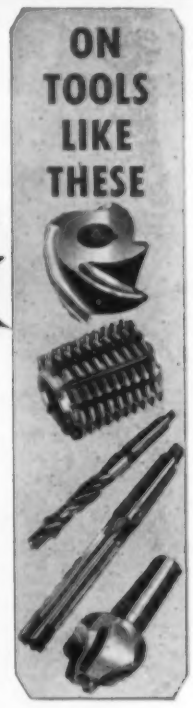
THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO
Established 1893

Peerless Electric MOTORS • FANS • BLOWERS

For more details circle NED-8073 on enclosed inquiry slip

GRIND TOOL RELIEF *fast — accurately* IN YOUR SHOP!

CIRCULARITY GRINDING ATTACHMENT



The Circularity-Grinding Attachment now makes it easy to produce accurate tools that were previously impossible to make. If you have tools that now cannot be made in your shop, try the Circularity-Grinding Attachment.

The Circularity-Grinding Attachment will produce accurate and uniform relief, form and/or radial, on tools with straight or tapered cutting edges, straight or spiral flutes and right or left hand cut without special cams or holding fixtures. The amount of form and radial relief can be adjusted independently from .0002" to .100", and tools may be ground in a collet chuck or between centers.

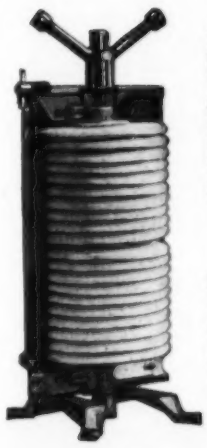
Because the unit is accurately indexed for any number of flutes from 1 to 24, it is ideal for sharpening hobs. Circularity-Grinding Attachment fits on any standard universal or cutter grinder and can also be used to produce special tools and to salvage tools.

Send for FREE BULLETIN

DETROIT REAMER & TOOL CO.
Mfrs. of Special High Speed Cutting Tools
2832 East 7 Mile Rd. Detroit 34, Michigan

For more details circle NED-8074 on enclosed inquiry slip

Here's Positive Filtration for lubricating, hydraulic and fuel oils, solvents, and other industrial fluids



Alsop "Disc-Pak" Filters completely remove all undesirable solids, minute particles, sludge and moisture. The long-life, replaceable cartridge type elements contain an enormous filtration area and are available in eight different grades for varying degrees of filtration from course, fast-flowing to the removal of particles in the sub-micron stage. "Disc-Pak" Filters are made in a full range of sizes and capacities up to 3600 g.p.h.

Send for This Free Catalogue

For complete information, write Alsop Engineering Corp., 511 East Rd., Milldale, Conn.

ALSOP ENGINEERING CORPORATION
Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

For more details circle NED-8075 on enclosed inquiry slip

ROTABINS BRING PARTS TO YOU

SAVE SPACE SAVE TIME SAVE MONEY

RB-3440: 34" diameter, 65½" high; has 8 separately rotating sections, 6¾" high, with 5 compartments 21" wide at face.

Compartments are punched on 1" centers for additional dividers. Bin fronts are removable to permit use of drawer units or pans. Only $84.00 f.o.b. Wellston, Ohio.

Send for new, illustrated circular J-220:
The Frick-Gallagher Mfg. Co.
Sales: 408 Shubert Bldg., Phila. 2, Pa.

FRICK - GALLAGHER
WELLSTON, OHIO
SHELVING • PARTS BINS • ROTABINS • COUNTERS • RACKS • TABLES

For more details circle NED-8076 on enclosed inquiry slip

you can get in FAFNIR Ball Bearings this small

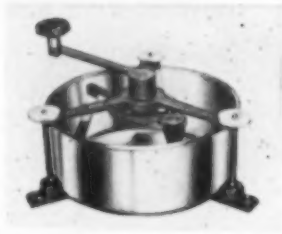
• For extremely small shafts in instruments, home appliances, cameras and projectors, fractional h.p. motors, Fafnir makes several series of extra small ball bearings . . . in metric bore sizes down to 4 mm and in inch sizes down to 1/8". Available with standard, special or super-precision tolerances. Three constructions . . . filling slot, non-filling or spring type retainers. Can be fitted with grease shields, felt seals, Mechani-Seals or Plya-Seals. If you want top performance on a small shaft — Fafnir has the answer. Write for new Instrument Bearing Catalog. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

For more details circle NED-8077 on enclosed inquiry slip

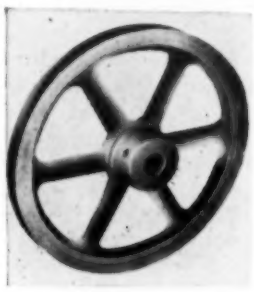
SMALL UTILITY MIXER
prepares experimental batches



Hand operated and equipped with 5½-in. high 12-in. diameter stainless steel bowl, Gordon-Campbell utility mixer is durable, simple and easy to operate. Laboratory samples can be mixed readily by turning hand crank. Mixing element consists of revolving arm with scraper at one end to remove material from wall of bowl. At other end of pinion is mixing paddle that rotates on its own axis as it travels around bowl. Cleaning is facilitated because entire mixing mechanism can be removed. Three clamps secure unit to table for stability. Additional bowls can be supplied for multiple batch mixing operations. Made by **Claud S. Gordon Co.**, 3002 S. Wallace St., Chicago 16, Ill.

For more details circle NED-8080 on enclosed inquiry slip

V-BELT PULLEYS
in standard and variable-pitch types



Line of standard V-belt and variable pitch type cast-iron pulleys features minimum of slippage, low belt tension and long belt life. Bore and grooves are machined in single chucking to assure concentricity, true-running and noiseless operation. All standard sizes are available for various section V-belts. Made by **Climax Flexible Coupling Co.**, 862 E. 140th St., Cleveland 10, O.

For more details circle NED-8081 on enclosed inquiry slip

MOBILE TUBE EXPANDER
tools are readily accessible

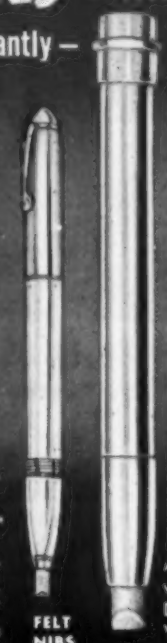
Convenience in handling tube expansion equipment is provided by this mobile unit consisting of welded steel frame truck on which are carried control system, extra motors, expanders, mandrels, cables and accessory tools. Control system assures uniform results when rolling heat exchanger and condenser tubes as it automatically stops expansion at preselected point and can be set for tube size and tube sheet thickness being worked. Illustration shows truck, control box and two of four different motors that are available to furnish range of power needed for any application. Made by **Airetool Mfg. Co.**, 210 Shuey Bldg., Springfield, O.

For more details circle NED-8082 on enclosed inquiry slip

FLO-MASTER
FOUNTNBRUSH
Marks BOLD — Writes fine
Ink Dries instantly — won't rub off

ON: METAL, CELLOPHANE, GLASS, FABRICS, WOOD, PLASTICS, LEATHER, WAXED PAPER

FOR: PARTS, PIPES, PATTERNS, INSPECTION, ADDRESSING, INVENTORY, STOCK BINS, SHELVES



POCKET SIZE 6¼ in. $3.00*
Precision-built of aluminum. Inks in all colors. Cap of "King Size" may be screwed to bench to serve as stand.

KING SIZE 8¾ in. $4.00*
Ask your supplier or write to Cushman & Denison Mfg. Co., 135 West 23rd Street, New York 11, N. Y.

*Slightly higher in West and Canada

For more details circle NED-8084 on enclosed inquiry slip

IMPORTANT!

REDUCE FIRE LOSSES with ROCKWOOD triple-action SG-48 WaterFOG NOZZLES

Improve your fire protection now by installing throughout your plant, Rockwood triple-action WaterFOG Nozzles. They give ordinary water greater fire extinguishing power and will out-perform any other fog nozzles operating on either high or low water pressures.

Rockwood WaterFOG Nozzles are light in weight and are easier to handle in action. This modern nozzle discharges 1. high velocity WaterFOG 2. straight stream 3. low velocity WaterFOG from extension applicator which can be easily inserted in place of the high velocity WaterFOG tip. Provides firemen with greater protection and fire fighting efficiency.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories. Ask for bulletin C-501R.

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

For more details circle NED-8078 on enclosed inquiry slip

WHEN YOU USE AMERICAN WELDING "Controlled Technique" your products have these advantages

1. Insured Conformity to Specifications
2. Lower Cost
3. Closer Tolerances
4. Less Machining
5. Prompt Delivery

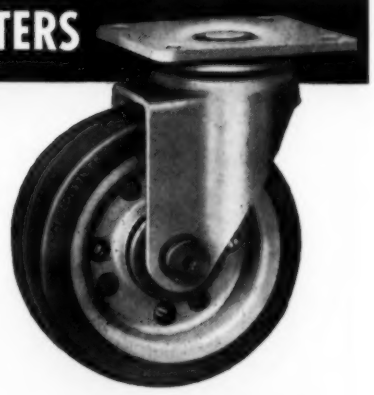
If you use rings, bands, assemblies, weldments, or any other products that lend themselves to the welding process of manufacture, it will pay you to specify fabrication by American Welding "Controlled Technique". Skilled designers and engineers will adapt this experience to your requirements without obligation.

SEND FOR 16-PAGE CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

For more details circle NED-8079 on enclosed inquiry slip

One of 1458 LOAD-FLOATING WORK-SAVING Colson CASTERS



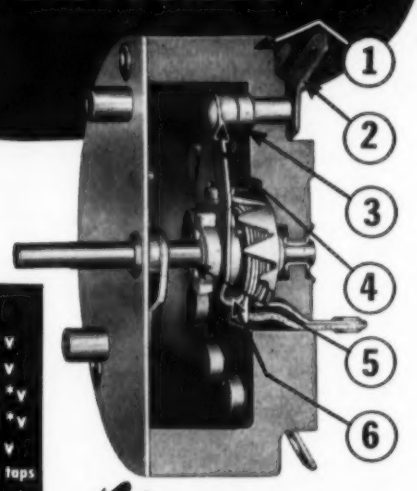
Model No. 3-527-65 swivel fork caster, ideal for use on medium weight industrial equipment.

To meet every need exactly, there are 1458 different standard designs of Colson casters—many of them stocked for immediate shipment. Colson casters are the replacement choice of Industry because they offer big dividends in fast, quiet handling, easy work and reduced floor damage. *WRITE TODAY FOR FREE 68 PAGE CATALOG.*

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

For more details circle NED-8083 on enclosed inquiry slip

Here's Why OHMITE TAP SWITCHES...



5 SIZES
10 amp—150 v
15 amp—150 v
25 amp—300 *v
50 amp—300 *v
100 amp—300 v
*150 volts between taps

...GIVE *Years* OF UNFAILING SERVICE!

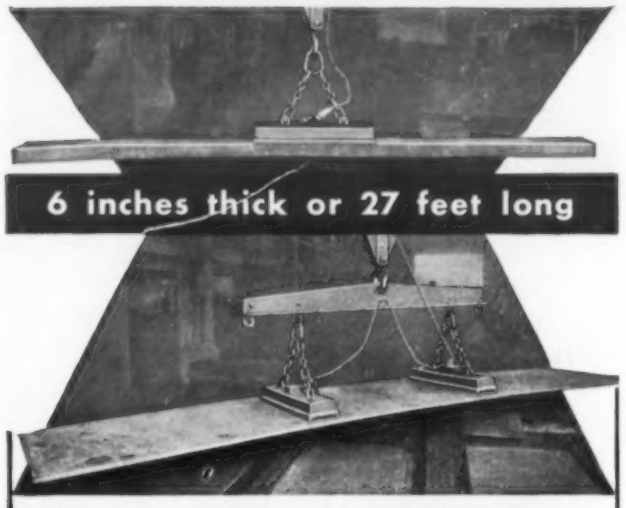
1. **CERAMIC CONSTRUCTION** provides perfect insulation, unaffected by arcing. Contacts and mechanism are entirely enclosed and protected (except for Model 111).
2. **EXTREMELY COMPACT,** yet have many high-current taps, perfectly insulated. Terminals are convenient for wiring. Back-of-panel mounting.
3. **SILVER-TO-SILVER CONTACTS,** for high electrical conductivity. Have low surface resistance, and *eliminate* contact maintenance.
4. **SELF-CLEANING ROTOR CONTACT.** Slightly rounded, assuring perfect seating and producing slight rubbing motion with every operation.
5. **"DEAD" SWITCH SHAFT.** Completely insulated from the load by a high strength driving hub which will withstand a 2000 volt test.
6. **"SLOW-BREAK" MECHANISM,** incorporating a positive cam-and-roller. Provides "slow-break, quick-make" action, particularly suited to alternating current. Minimizes sparking, extends contact life.

OHMITE MANUFACTURING CO.
4843 Flournoy St., Chicago 44, Ill.
WRITE on Company Letterhead for Catalog and Engineering Manual No. 40.

Be Right with OHMITE®

RHEOSTATS • RESISTORS • TAP SWITCHES

For more details circle NED-8085 on enclosed inquiry slip



Save up to 90% in Handling Time with EC&M Plate Magnets

Place the magnet on the work, turn on the power and steel is transported without delay. No time lost in affixing chains—no danger of pinching hands—the crane operator often works without a ground-man. Send us the facts of your operations so that we may write fully when sending Bulletin 903 describing EC&M Plate-magnets.

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

For more details circle NED-8086 on enclosed inquiry slip

CUT PRODUCTION and MAINTENANCE COSTS

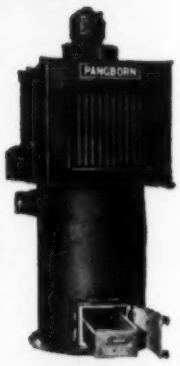
with these inexpensive, ready-to-use Pangborn Blast Cleaning and Dust Collecting units you earn extra profits where custom-built equipment is not practical.

BLAST CLEANING CABINET
cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Ideal unit for producing clean, smooth surface on pieces up to 60" x 36".

BLAST CLEANING CABINETS $315. and UP

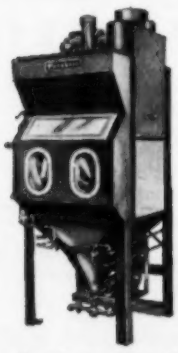
BLAST CLEANING MACHINE
for maintenance and many other uses including the removal of rust, dirt, scale, etc. Economically cleans large objects such as tanks, bridges, structural work preparatory to painting. 6 sizes, stationary or portable.

BLAST CLEANING MACHINES $170. and UP



UNIT DUST COLLECTOR
traps dust at its source, minimizes machine breakdowns, reduces your maintenance costs. Solves many grinding and polishing nuisances and material losses.

UNIT DUST COLLECTORS $286. and UP



HYDRO-FINISH CABINET
uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for finishing. Holds tolerances to .0001".

HYDRO-FINISH CABINETS $1295. and UP

Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment

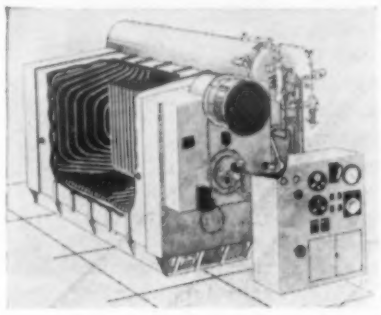
MAIL COUPON TODAY!

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me further information on—
☐ BLAST CLEANING CABINETS ☐ UNIT DUST COLLECTORS
☐ BLAST CLEANING MACHINES ☐ HYDRO-FINISH CABINETS
I am interested in the possibility of using one of these machines for
.....
NAME.....
COMPANY.....
ADDRESS.....
CITY.....STATE.....

Pangborn

For more details circle NED-8087 on enclosed inquiry slip

UNITIZED BOILERS
shop-assembled steam generators offered in sizes to 25,000 lb/hr



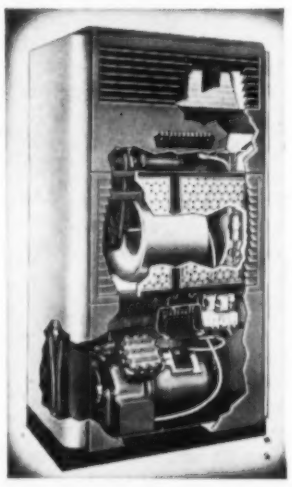
Steam for heating, processing and other industrial uses is developed efficiently in type FM self-contained steam generating units. Standard sizes are available for loads ranging from 7000 to 25,000 lb of steam per hour at pressures up to 250 psi. Firing can be by oil, gas or combinations of these two fuels. Changeover from one fuel to another is made easily to take advantage of more favorably priced fuel.

Boiler is delivered as unit. It can be set on concrete floor or concrete corner blocks. As soon as necessary piping and control circuits are completed, boiler is ready for service. Push-button start and stop, as well as automatic control for handling variations in load are provided. All controls are mounted on enclosed cabinet adjacent to front of boiler and within easy reach of attendant.

Of water tube design, generator has water-cooled furnace. Walls, floor and roof are lined with high-temperature block insulation and blanket of mineral wool. This construction minimizes heat loss by radiation, provides economical face temperature and affords comfortable work surroundings. Rigid steel casing over entire unit permits its use in outdoor installations or service. Made by **Babcock & Wilcox Co.**, Room 1004, 85 Liberty St., New York 6, N. Y.

For more details circle NED-8088 on enclosed inquiry slip

AIR CONDITIONING UNIT
offered in 2, 3 and 5-hp sizes for office or industrial use



Cooling, dehumidifying, circulating and filtering of air is provided by improved Unitaire self-contained air conditioner. Year-around air conditioning can be obtained by adding either steam or water heating coils and outside air duct connection for ventilating air supply. Cooling capacities of three models are 24,000, 36,000 and 60,000 Btu per hour. Units can be connected for single, two or three phase operation on 50 or 60-cycle power sources.

This factory-assembled packaged unit contains hermetically sealed Freon-12 compressor, water-cooled condenser, direct-expansion coil and fan. It is easy to install and requires only water, drain and electrical connections. Cabinet of 18-gage steel is finished in semigloss two-tone baked enamel. Made by **Westinghouse Electric Corp.**, Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

For more details circle NED-8089 on enclosed inquiry slip

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

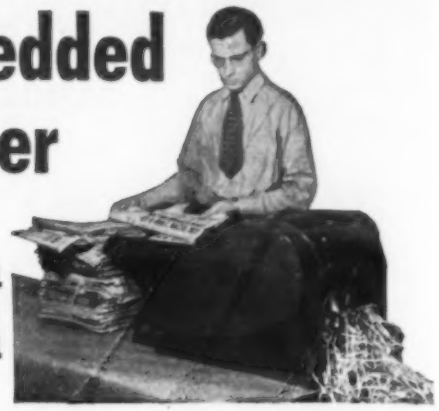
BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American Industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

For more details circle NED-8090 on enclosed inquiry slip

Shredded Paper



IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing *today* to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-8091 on enclosed inquiry slip

Nylon Elastic Stop Nut Offers Extra Reusability

A new nylon collar insert now expands the reusability of ESNA Elastic Stop Nuts to more than 200 on-off cycles.

This increased reusability range permits designers to specify the standard fiber insert Elastic Stop Nut for all normal assemblies that may require five, eight, ten, or more re-uses, or Elastic Stop Nuts with the new nylon insert for assemblies that may require frequent disassembly and reassembly. Built in one piece with a locking insert collar, both the standard Elastic Stop Nuts and the new nylon insert Elastic Stop Nuts are applied to studs or bolts with standard nut runners. The famous Red Elastic Collar grips threads, *and holds where it's set*, regardless of vibration or impact.

On machine tools, household appliances, portable tools, automotive and railroad equipment, Elastic Stop Nuts every day solve fastening problems created by the effects of vibration. In addition, Elastic Stop Nuts solve problems of: (1) prestressing bolts for proper load distribution (2) setting and maintaining proper spring-loaded adjustments (3) protecting bolt threads against corrosion (4) providing the feature of reusability—without major design changes.

For a free bulletin on the uses of Elastic Stop Nuts write to Elastic Stop Nut Corp. of America, Union, N. J.

For more details circle NED-8092 on enclosed inquiry slip

LUG-ALL
All Purpose WINCH-HOIST

WEIGHS ONLY 8½ LBS., YET LIFTS, PULLS OR LOWERS 1½ TONS DISTANCE OF 7½ FT., OR ¾ TON DISTANCE OF 15 FT.

LUG-ALL has a built-in 'snatch block' and three swivel hooks for work around corners or in cramped quarters as close as 10½ inches. No brake to slip. 133 strand flexible aircraft cable. Safety handle prevents accidental overload.

CAPACITY 1½ TONS

WEIGHT 8½ LBS.

AND IT COSTS ONLY $29.50

LOWER FIRST COST
LOWER MAINTENANCE COST
. . . THAT'S LUG-ALL

THE LUG-ALL COMPANY
Wynnewood 6, Penna.

For more details circle NED-8093 on enclosed inquiry slip

▲ For more details circle NED-8094 on enclosed inquiry slip ▲

Smart operators in the construction business are making certain Herman Nelson Portable Heaters are at work for them. There's a one-word reason—SAFETY!

When a builder finds he gets more production from workmen, gets a unit that is so adaptable he can use it for heating, thawing or drying anywhere, anytime—he's sold and he'll tell you so. Remember, this is heat that pays for itself!

That's why more Herman Nelson Portable Heaters than ever will speed construction jobs through the coldest months this winter.

MAKE A DEAL now with your nearest Herman Nelson dealer—while he can supply you without a long wait. For his name just write to Dept. ND-11 at the address below.

HERMAN NELSON DE LUXE I MODEL PORTABLE HEATER

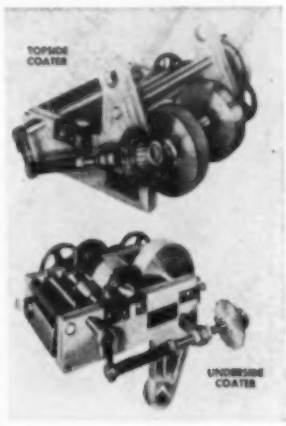
- Electric Motor Powered
- Uses Kerosene for Heating Fuel
- 280-450,000 BTU Capacity
- Totally Enclosed Stainless Steel Combustion Chamber
- Completely Automatic Operation
- Automatic Temperature Control
- Free from Dangers of Fire, Smoke and Noxious Gases
- Remote Control Thermostat Optional
- Easily portable by One Man

AAF herman nelson moline illinois

HERMAN NELSON DIVISION
AMERICAN AIR FILTER COMPANY, INC.
Moline, Illinois

▲ For more details circle NED-8095 on enclosed inquiry slip ▲

WEB COATING ATTACHMENT applies adhesives in any amount



Special brackets permit mounting BTC multipurpose coating attachment in any position for top, side or underside coating. It applies adhesives in widths up to 21 in. to webs running at any speed. Self-powered or driven by other equipment, unit is equipped with control for applying adhesives in any required amount. Removable reservoir and coating rollers facilitates cleaning. Made by **Potdevin Machine Co.**, 1285-A 38th St., Brooklyn 18, N. Y.

▲ For more details circle NED-8096 on enclosed inquiry slip ▲

PRESSURE-ACTUATED SWITCH is of differential type

This Meletron No. 427 differential pressure-actuated switch senses difference between variable and reference pressure. It will make or break circuit at any preset point within adjustable range on increasing or decreasing pressure difference. Because switching element is in contact with reference pressure, air or inert gas must be used. Unit incorporates Underwriters' Laboratory approved single-pole double-throw switch rated for either alternating or direct current circuits. Housings have 3-in. diameter, are 4⅛ in. long, and have ⅛-27 internal thread connection and ½-in. electrical connection through conduit. Six classes of switches provide adjustable ranges from 3-in. water to 80 psi and are recommended for such applications as maintaining liquid level in tank with respect to surface pressure on liquid. Made by **Barksdale Valves**, 4907 Santa Fe Ave., Los Angeles 58, Calif.

▲ For more details circle NED-8097 on enclosed inquiry slip ▲

HAND SEALER for polyethylene film materials

Utilizing improved principle of sealing, this electrically heated hand sealer eliminates sticking of polyethylene to iron. Tool is light in weight and operates from any lighting outlet. Any homogeneous plastic film which heat seals can be welded. Dwell and pressure application are not critical. Made by **Amsco Packaging Machinery, Inc.**, 31-31A 48th Ave., Long Island City, N. Y.

▲ For more details circle NED-8098 on enclosed inquiry slip ▲

STACKING TOTE BOXES . . .

Eliminate Shelving . . . Reduce Costs

Loaded Convoy Tote Boxes stack ceiling high without intermediate supports. They interlock securely . . . to carry all weight on the triple-constructed ends . . . and, to seal each other from dust and light.

DURABILITY—Thousands have been in active use for over four years. Moisture will not weaken them. They are impervious to machine oils. They have armored rims for rigidity; and strong, comfortable hand holes.

MATERIAL—Our exclusive chemical impregnation process transforms high-test, corrugated fibre-board into flint-hard and rock-strong "CHEM-BOARD".

PRICE AND WEIGHT—50% to 60% less than steel. No maintenance expense. It is economical to order them fitted to your job. Weight averages under 4 pounds per cu. ft. of capacity.

Write for illustrated catalog and price list.

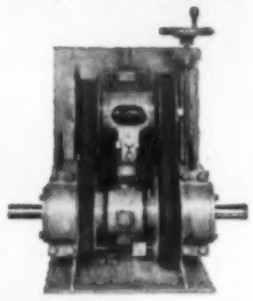
Standard and Custom-Made Nesting • Stacking • Vertical Tote Boxes for Quick Delivery

CONVOY, INC.
P. O. Station B, Box 216-N
CANTON 6, OHIO

▲ For more details circle NED-8099 on enclosed inquiry slip ▲

Something New in Instantaneous, Step-Less Speed Control

2 NARROW BELTS... INSTEAD OF 1 WIDE BELT
give smoothest operation... highest ratios in smallest space... longest belt life



The tandem belt design is a feature of **WORTHINGTON ALLSPEED DRIVES**

Here's a new, enlarged line of instantaneous step-less variable speed drives . . . with important exclusives you'll want to investigate for your machinery.

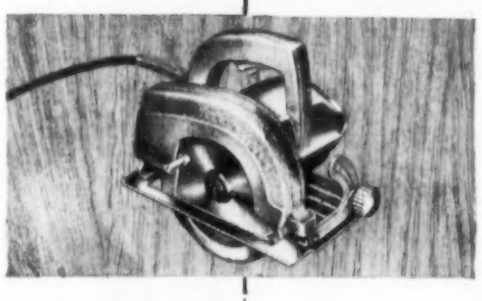
Worthington ALLSPEED DRIVES are now built in six sizes—from 1 to 15 hp—around the tandem-belt design which gives a *greater range* of speed variation and greatly reduces belt replacement.

Write for Bulletin AS-1600-B3 and AS-1600-B4, Worthington Pump and Machinery Corporation, Worthington ALLSPEED DRIVE Division, Holyoke, Mass.

WORTHINGTON

▲ For more details circle NED-8100 on enclosed inquiry slip ▲

NEW! ....in the 6" size



$67.50

Stanley safety saw W-65

This new, value-packed 6" saw features a multi-grip handle and a quick-set tilting adjustment to permit easy beveling to 45°. Cuts from ⅝" to 2". Safety guard telescopes into top; and is fitted with finger knob for safe, manual control. Other features include helical gears, full ball and roller bearings. Operates on A.C. or D.C. in any standard voltage. Supplied with combination rip and cross-cut blade, wrenches, lubricant, and steel carrying case. See the W-65 at your dealer's or write for literature. Stanley Electric Tools, 563 Myrtle St., New Britain, Connecticut.

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS
ELECTRIC TOOLS
STEEL STRAPPING • STEEL

▲ For more details circle NED-8101 on enclosed inquiry slip ▲

The Synthane COMBINATION Gives the Right MATERIAL Answers

If your requirements are strict and your present material in any way unsatisfactory, Synthane may be the answer to your problem. Synthane has an unusual *combination* of mechanical, electrical and chemical properties which have led to its use in many applications in almost every industry.

Light, hard, strong and dense, Synthane is easily machined. Resistant to corrosion and abrasion, it rates high in electrical properties such as high dielectric strength, low power factor and low dielectric constant.

Find out more about Synthane and its possible advantages to you. Clip and mail the handy coupon for your Synthane catalog.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
North East River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name_____
Firm_____
Address_____
City_____ State_____

▲ For more details circle NED-8102 on enclosed inquiry slip ▲

PALMGREN
ANGLE VISES

HEAVY-DUTY Model

For Quick — Accurate Set-ups

PALMGREN Heavy Duty Angle Vises are built sturdy and rugged for tough, heavy jobs. They are accurately graduated in degrees, can be quickly adjusted to any angle, stay locked under severe service and save valuable hours otherwise wasted in tedious make-ready, wedging or making temporary jigs and fixtures.

Jaws are hardened and ground. Special outstanding features are the size and opening of jaws—4" Jaws open full 4"; the 6" Jaws open full 6" etc., with corresponding depth of Jaws. Vise can be used as ordinary vise when lowered to horizontal position. Swivel bases furnished if desired. Sizes 4", 6" and 8" Jaws and openings. Prompt deliveries.

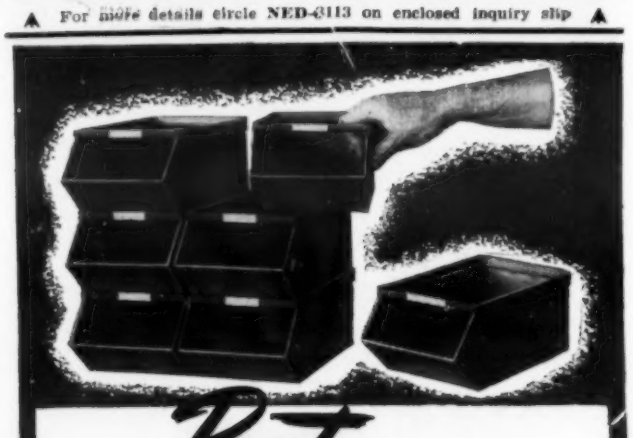
Write for bulletin on complete line of PALMGREN Vises

CHICAGO TOOL & ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS for over 25 years
8378 SOUTH CHICAGO AVENUE • • • CHICAGO

ORDER TODAY Be Sure of IMMEDIATE DELIVERIES

PRECISION WORK AT ANY ANGLE

▲ For more details circle NED-8113 on enclosed inquiry slip ▲



Parts...

★ **Where You Want Them . . .**

★ **When You Want Them**

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction. Sizes from 3½" x 6" x 3¼" to 15" x 24" x 11". Prices from $.65 to $2.75.

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ For more details circle NED-8114 on enclosed inquiry slip ▲

Steam-Heated Plant Uses 18 Auxiliary ELECTROMODE *All-Electric* HEATERS

Plant of Commercial Controls Corporation, Rochester, N. Y.

Thermostatically controlled Electromodes are the economical answer to heating problems in old and new plants throughout the country. In this plant, for instance, they supplied much-needed warmth in eighteen hard-to-heat areas without expensive enlargement or forced operation of its central steam system. Here is how it was done:

FACTORY—Underheated areas were eliminated with eight suspension-type Electromodes. GENERAL OFFICES—A cold north side was heated perfectly with five 5 KW units. SHIPPING ROOM—Drafts from platform were counteracted with two 5 KW Electromodes. GUARDHOUSE—This always-cold building was made comfortable with one 1.5 KW portable. WASHROOM—Added warmth for showering comfort was provided by one 3 KW unit. LOBBY—One 4 KW wall type unit overcame inefficient heating caused by long steam runs.

Automatic and Non-Automatic Electromodes (1.5 to 45 KW) for Home, Office, Industry.

MAIL THIS COUPON!

ELECTROMODE CORPORATION • 45 Crouch St., Rochester 3, N. Y.
Please send catalog and full technical information concerning Electromode All-Electric Heaters.

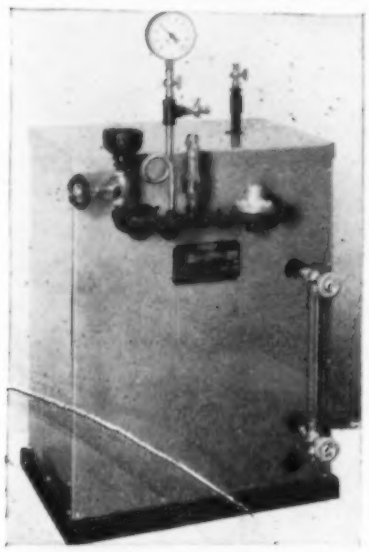
NAME _____

ADDRESS _____

NED-110

▲ For more details circle NED-8115 on enclosed inquiry slip ▲

STEAM GENERATORS
1/3 to ½-boiler hp models are electrically heated

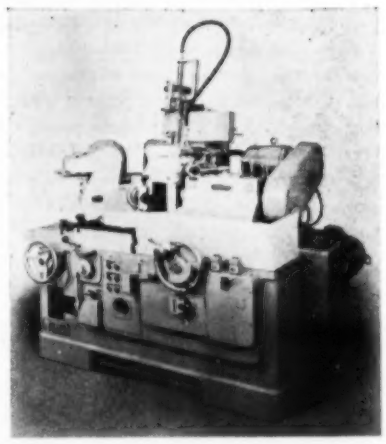


Underwriters' Laboratories listed, models LP-½ and 400-½ Speedylectric steam generators utilize resistance of boiler water to passage of electricity between solid metal electrodes to produce heating energy.

They are suitable for supplying steam for laboratory work, jacketed kettles, glue pots, plastic presses, paint heaters and cloth steaming. Boilers measure 14 x 22 x 28 in. and can be plugged into ordinary 110-v outlet where they draw 30 amp to generate ⅓ boiler hp or 10 lb steam per hour. On 220-v single phase current their steam output at 30 amps is 20 lb steam per hour or slightly more than ½ boiler hp. Boilers can be used on closed or open systems, and where continuous boiler operation is required, accessory water feeders can be obtained. Made by **Livingstone Engineering Co.**, Dept. 165, 100 Grove St., Worcester 5, Mass.

▲ For more details circle NED-8116 on enclosed inquiry slip ▲

VALVE GRINDER
features semiautomatic control



High speed production, semiautomatic operation, precision and fine finish are features of this valve grinder. Unit handles automotive and aircraft type valves having face angles from 0 to 62½ degrees, face diameters of 7/16 to 3½ in. and stem diameters up to ¾-in. Movement of single control lever clamps workpiece in collet and starts grinding cycle, rotation of workpiece and coolant flow. Fine feed can be adjusted to become operative at any point in wheel feed cycle from 0.005-in. oversize to zero. Spindle of work head unit employs draw-type hydraulically-operated chuck for holding workpiece. Radially-adjustable face plate centralizes workpiece in chuck, and end-stops control location of ground surface relative to wheel. Work head unit swivels through arc of 67 degrees on swivel plate having micrometric adjustment. Wheel guard type truing device operates through hydraulic power. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

▲ For more details circle NED-8117 on enclosed inquiry slip ▲

HINGED PLATEGRIP
BELT FASTENER No. 500

For Heavy Conveyor Belts of changing length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from ⅜" to ½" thickness. They offer special advantages in mines, quarries or industrial set-ups where length of position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for Circular

ARMSTRONG BRAY & CO.
5364 Northwest Highway • CHICAGO 30, U.S.A.

▲ For more details circle NED-8118 on enclosed inquiry slip ▲

HALLOWELL

Steel Collars

HALLOWELL Solid Steel Collars functionally proportioned throughout . . . precision-machined so faces run perfectly true . . . are beautifully polished all over . . . yet they cost less than common cast iron collars. 3" bore and smaller are made from Solid Bar Stock. To make sure the collar won't shift on the shaft, they are fitted with the famous UNBRAKO Knurled Point Self-Locking Socket Set Screw — the set screw that won't shake loose when once tightened. HALLOWELL . . . a "buy word" in shaft collars . . . available in a full range of sizes for

IMMEDIATE DELIVERY

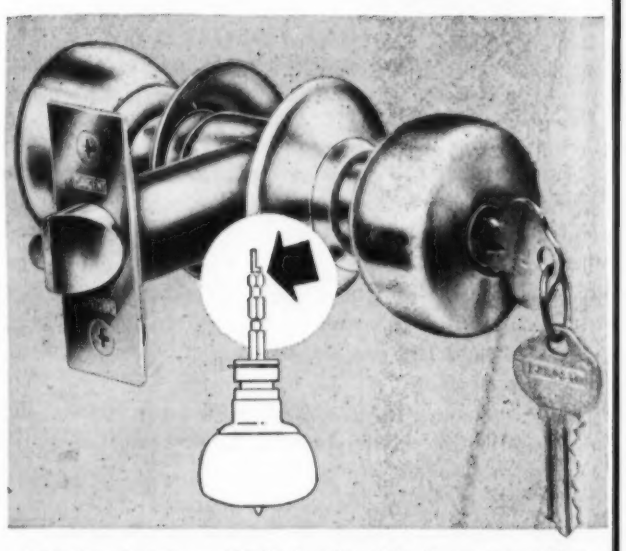
Write for name and address of your nearest HALLOWELL and UNBRAKO Industrial Distributors.

OVER 47 YEARS IN BUSINESS

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-8119 on enclosed inquiry slip ▲

National
Retaining Rings cut costs again!



This handsome new DuaLock, offered by Sargent and Company of New Haven, Conn., is the result of many years of engineering research.

Its simplicity, sturdy safety, ease of application and beauty of design assure a constantly increasing demand. Because of the skill with which fine precision parts are built into this greatly simplified lock it requires only an exceptionally small cross bore.

By using National retaining rings Sargent saves material, weight, space and assembly time—without sacrificing efficiency or strength.

Examine your products—metal, wooden or plastic. Many products as well as many machines can be redesigned to use retaining rings. Groove your shafts instead of wastefully cutting down larger shafts to form shoulders. And groove your housings too.

Our high grade steel rings assure greater savings and greater margin of profit.

Let us show you how retaining rings can do an efficient job for you. These inexpensive, efficient artificial shoulders save time, save weight, save space, save materials, save money.

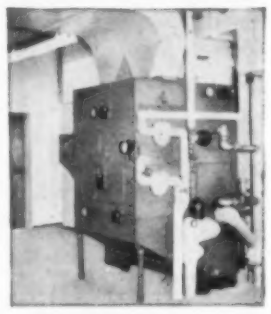
Write today for descriptive folder of many types of National retaining rings.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN, U.S.A.

▲ For more details circle NED-8120 on enclosed inquiry slip ▲

New Method Gives Precise Control in Air Conditioning

NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent



● This new method gives complete control of temperature and relative humidity, holding constant conditions or varying them at the will of the user. Especially, it provides dry air at normal atmospheric temperatures with little or no refrigeration required.

The air is filtered and then enters a chamber where it passes thru a spray of "Hygrol" Liquid (a hygienic hygroscopic chemical that absorbs the air-borne moisture and contains no salts or solids to precipitate). In the same chamber, cooling coils remove the latent heat of evaporation and also sensible heat as required.

The absorbent liquid spray falls into a tank at the base. It is piped to a concentrator, removing moisture taken from the air. The re-concentrated liquid returns to the system. This process is continuous, and the apparatus operates always at full capacity.

This equipment is manufactured in units providing from 1000 to 20,000 CFM of conditioned air.

Installations have been made in food and chemical process industries, in packaging hygroscopic products, for preventing condensation of moisture on metals and other products in storage, in air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. ED, 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-8121** on enclosed inquiry slip ▲

New Possibilities IN GRINDING TUNGSTEN CARBIDE

VISUAL GRIND

Combines 3 Different Techniques..

Image Grinding

Profile Grinding

Templet Grinding

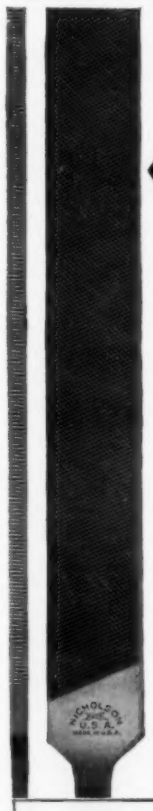
New, but proven, Visual-Grind combines the image, profile and templet techniques in one machine, greatly broadening the scope of contour grinding. Carbide tungsten work-pieces, heretofore most difficult, are easily handled. The image technique readily grinds work-pieces whose shank diameters are larger than the contour ends. The templet method handles jobs too large to magnify on the screen. New possibilities...enormous savings... extreme accuracy!

Ask for Bulletin N-11

VISUAL GRIND THE CLEVELAND GRINDING MACHINE CO.

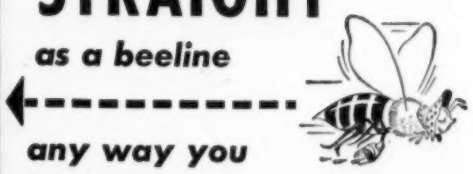
6514 ST. CLAIR AVENUE • CLEVELAND 3, OHIO

▲ For more details circle **NED-8122** on enclosed inquiry slip ▲



STRAIGHT

as a beeline



any way you look at it

Straightness in a file is essential for doing a good filing job – especially where accurate stroking is required. To achieve it the blank must be evenly surfaced and annealed, teeth carefully cut, file uniformly hardened.

Maintaining rigid standards in the high carbon steel used; guarding against decarbonization during manufacture; *testing each individual file* for soundness, sharpness and durability . . . these also help to make Nicholson and Black Diamond great files.

Their purchase cost is insignificant in relation to the better work, increased production, and savings in workmen's time they enable. They're the brands most industrial distributors prefer to handle.

"FILE FILOSOPHY," Nicholson's famous 48-page illustrated book on manufacture, kinds, use and care of files, is full of valuable information. FREE.

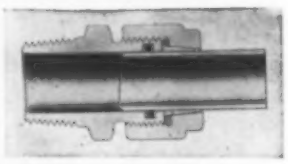
NICHOLSON FILE CO., 34 Acorn St., Providence 1, R. I.

(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. NICHOLSON A FILE FOR EVERY PURPOSE BLACK DIAMOND TRADE MARK

▲ For more details circle **NED-8123** on enclosed inquiry slip ▲

TUBE COUPLING uses pressure-sealing O-ring



Only normal wrench torque is required to provide leakproof joint with this O-ring tube coupling. Fluid pressure on synthetic ring forces it to edge of groove and against tube to effect perfect seal. Tubing is held in fitting by friction grip of split tapered ring which is squeezed when nut is tightened. Fittings are available in wide range of straight, elbow, tee and union styles for tubing from ⅜ to 2-in. OD. Standard fittings are supplied with O-rings for hydraulic pressures to 2500 psi and temperatures to 275° F. Special rings can be supplied for other fluids or higher temperatures and pressures. Made by **Lenz Co.**, 237 Anna St., Dayton 1, O.

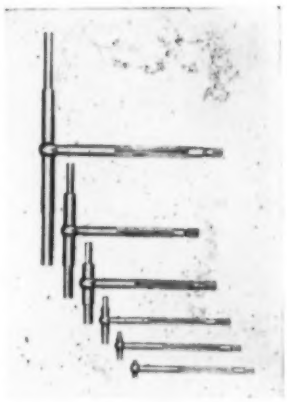
▲ For more details circle **NED-8124** on enclosed inquiry slip ▲

SMOKE ALARM SYSTEM uses photo cell and amplifier

Capable of covering distances up to 200 ft, this Safe-Eye electronic smoke alarm system will set off alarm when so little as puff of cigarette smoke crosses light beam. When used in buildings that have several partitions separating departments or storage space, it is necessary only to drill small holes in partitions to allow light beam to pass through. Each unit consumes about 25 w; any number can be used with wires from each unit terminating in central relay box if desired. Electric outlet box is required near photoelectric cell as well as near light beam projector. In case of electric power failure, electric bell operated from 6-v dry cell sounds immediate warning. Made by **Valley Forge Safe-Eye Alarm Service**, 16 Valley Forge Highway, Lansdale R. R. 1, Pa.

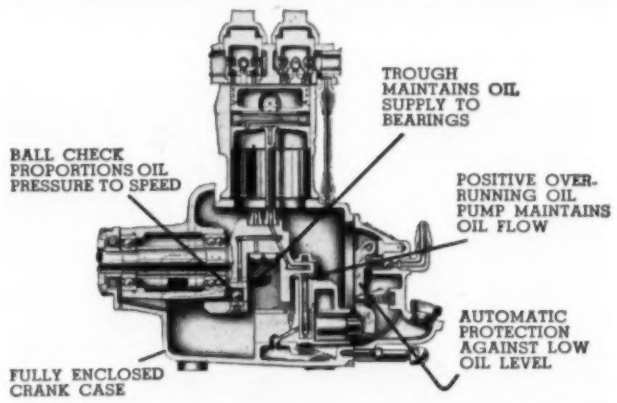
▲ For more details circle **NED-8125** on enclosed inquiry slip ▲

TELESCOPING GAGES have self-centering handles

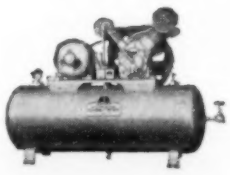


Available in six sizes with range from 5/16 to 6 in., No. 229 telescoping gages feature handles which remain centered and balanced regardless of setting of telescoping plungers. Handle is rigidly attached to contact plunger body. Both contact plungers telescope within each other to provide rigid positive seat for contact plungers in all positions. Constant spring tension gives uniform contact pressure and both plungers are easily locked at any desired setting by slight turn of knurled screw in end of handle. Made by **L. S. Starrett Co.**, Dept. ED, Athol, Mass.

▲ For more details circle **NED-8126** on enclosed inquiry slip ▲



Points of Protection on the Westinghouse Air Brake Company "Y" COMPRESSOR



The picture gives the "inside story" of the engin*air*ed features of the "Y". High dependability, low maintenance. Ask for Bulletin IDC 9302-3.

Westinghouse Air Brake Co.

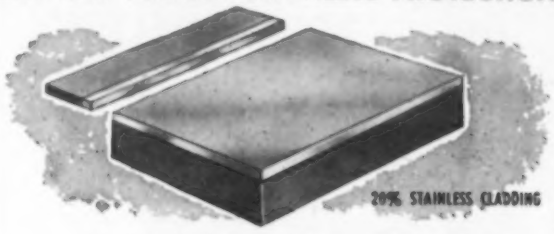
Industrial Products Division Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES CONSULT YOUR CLASSIFIED DIRECTORY

▲ For more details circle **NED-8127** on enclosed inquiry slip ▲

NOW! REDUCE MATERIAL COST

BUT GET PERFECT STAINLESS PROTECTION



with PERMACLAD

STAINLESS CLAD STEEL

PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel. It permits you to improve your products, provide corrosion resistance and cut forming costs. You can cold form PERMACLAD with ease—subject it to deeper draws without intermediate annealing—actually form it into products impossible with many other materials.

Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-5.

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

▲ For more details circle **NED-8128** on enclosed inquiry slip ▲

UNTIL YOU TRY this better dry-developed print paper you can't know its ULTRA HIGH FIDELITY

DRIPRINT

You want direct positive prints that are truly faithful to the original, and that's what you get when you use DRIPRINT, the better Dietzgen paper for ammonia vapor development. This ultra high fidelity is characteristic of DRIPRINT. Black, red or blue lines are denser, stronger, cleaner against a whiter background. DRIPRINT paper is tough, too, stands up to repeated folding, rough use. And DRIPRINT paper is ideal for writing on and drawing on with pen, pencil or watercolor.

No wonder more and more print users are insisting on DRIPRINT, especially among those who know the time-and-cost savings of the dry-developed process, where no washing or drying is required. Send for samples of DRIPRINT, and discover its numerous superiorities.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco New Orleans • Los Angeles • Pittsburgh • Washington Philadelphia • Milwaukee. *Dealers in All Principal Cities.*

FREE SAMPLES

Test DRIPRINT in your own shop, office, field work. Write on your company letterhead for stock samples, sent without obligation.

DIETZGEN

DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▲ For more details circle **NED-8129** on enclosed inquiry slip ▲

"SAFETY FIRST" PAYS OFF IN COMPOUND MELTING

Here's how all Sta-Warm tanks are wired to distribute not more than 5 watts of heat per square inch of tank sidewall and bottom areas.

Four or five watts of heat applied to one square inch of the Sta-Warm compounding melting tank's sidewalls and bottom is at least nine times more safe than 45 watts applied to one square inch of some less well designed compound melting equipment. *This is precisely why your production lines need Sta-Warm heaters.*

Low wattage per square inch implies well distributed heat, not dangerous highly concentrated heat. You get only well distributed heat (max. 5 w/sq.in.) in any Sta-Warm melter. Low wattage helps tanks last longer, give more years of trouble-free service. Low wattage means contents won't burn or carbonize, thus spoiling valuable material and slowing down production. Finally, it means lower compound melting costs.

Let Sta-Warm compound and soft metal melters pay off for you. There's a size and type to fit your job. Inquire for product bulletins today.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST. • RAVENNA, OHIO

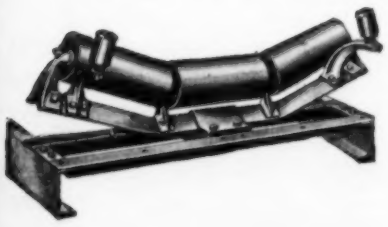
For more details circle **NED-8130** on enclosed inquiry slip

BELT IDLERS

Thousands of Jeffrey Idlers are being used daily in Belt Conveyor service all over the world. We can furnish them by the rod, or mile, just as the job requires. We know how to provide for reliability under tough conditions, handling of peak loads, low investment, high salvage, etc. Let us talk things over—constructively.

Roller or Ball Bearing Troughing and Return Idlers for belts from 14" to 60" wide.

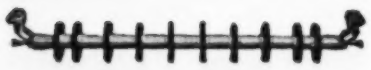
Roller or Ball Bearing Carrying and Return Idlers for Flat Belts from 14" to 60".



Roller or Ball Bearing Self-Aligning Troughing Idlers.

Roller or Ball Bearing Self-Aligning flat belt return idlers.

Impact Absorption Idlers for protecting belts at loading points. (Pat'd)



Spool type return idlers for use where sticky or dirty materials are handled. (Pat'd)

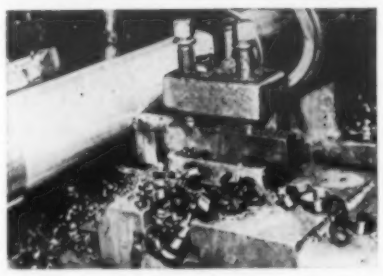
Self-aligning spool type return idlers.

Catalog No. 785 Tells All

JEFFREY
THE JEFFREY MANUFACTURING CO.
952 N. Fourth Street Columbus 16, Ohio

For more details circle **NED-8131** on enclosed inquiry slip

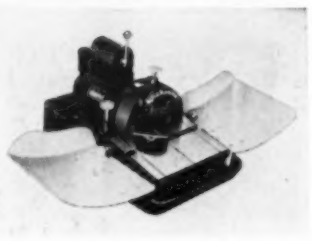
EJECTOR TYPE TOOL HOLDER chrome plating prevents erosion



Long service life is feature of line of chrome plated ejector type carbide tool holders. On one operation which involved turning 6-in. shafts of high carbon steel down to 5¼ in. at speed of 400 rpm, standard holders were destroyed by erosion before even one carbide insert was used up. When chrome plated holders were used on this job, equivalent of 22 miles of chips were turned from work without perceptible wear on holders. Made by **Super Tool Co.,** 21640 Hoover Rd., Detroit 13, Mich.

For more details circle **NED-8132** on enclosed inquiry slip

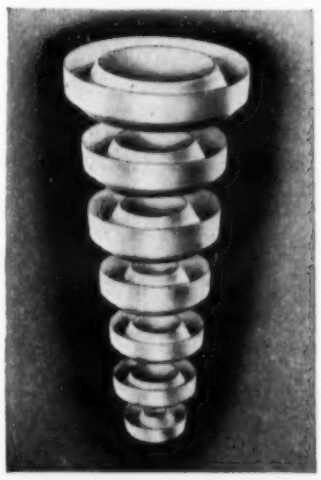
GRINDING & LAPPING MACHINE uses carbide or diamond wheels



Particularly suitable for use with Wickman-Neven steel bonded diamond wheels, model GF-2A bench grinding and lapping machine is driven by 1-hp reversible motor, has 12-gph impeller type coolant pump and is supplied with swivelling wheel guard. Second wheel guard for use with ordinary abrasive wheels, three-position table to provide for wheel wear, milled protractor slot and built-in coolant filter are included also. Filter can be removed from reservoir for cleaning, and reservoir can be drained through fitting. Made by **Wickman Mfg. Co.,** 15535 Woodrow Wilson Ave., Detroit 3, Mich.

For more details circle **NED-8133** on enclosed inquiry slip

V-RING PACKINGS are corrosionproof and frictionless



Molded by specially-developed process, Chemlon V-type packings combine chemically-inert and frictionless properties of du Pont Teflon with resilience and toughness needed for proper sealing results. Cross-section design assures permanent sealing even under varying pressures and at temperatures up to 450° F. Packing causes no wear on hydraulic valves and forms perfect seal with just finger-tight pressure on gland. Numerous standard sizes are available from stock while special sizes can be molded to meet specific requirements. Made by **Crane Packing Co.,** Dept. F-25, 1800 Cuyler Ave., Chicago 13, Ill.

For more details circle **NED-8134** on enclosed inquiry slip

DIAMOND CHAINS Help Band Frankfurters

Diamond #66 Roller Chain on International Banding Machine, with special attachments for handling frankfurters.

The adaptability of Diamond Roller Chains has been well established — for transfer of power from motor to main shaft, from shaft to shaft and with various types of attachment links for packaging and conveying operations.

Whatever your application Diamond Chains will simplify operation and maintain top production speed. Our engineering staff is ready to make practical suggestions. DIAMOND CHAIN COMPANY, Inc., Dept. 457, 402 Kentucky Avenue, Indianapolis 7, Indiana.

Offices and Distributors in all Principal Cities
Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER
Write today for Chain and Stock Sprocket Catalog 709.

DIAMOND ROLLER CHAINS

For more details circle **NED-8135** on enclosed inquiry slip

For greater profits, use Sterling Slo-Speed Electric Power Drives

STERLING ELECTRIC MOTORS

PLANTS: NEW YORK 51, LOS ANGELES 22, HAMILTON, CANADA—OFFICES IN PRINCIPAL CITIES
Write for Bulletin
SLO-SPEED (Geared) • SPEED-TROL (Variable Speed) • KLOSD (Normal Speed)

For more details circle **NED-8136** on enclosed inquiry slip

BRIDGEPORT Bellows . . . Bellows Assemblies

Bridgeport builds bellows and bellows devices to answer *your* particular requirements—to help solve temperature or pressure control design problems—to help make your product better. Wide range of metals and sizes. Write today for idea-filled Catalog VZ-100.

Bellows Assemblies . . . Bellows . . . Bellows Devices

BRIDGEPORT THERMOSTAT
Division
ROBERTSHAW-FULTON CONTROLS CO., BRIDGEPORT 1, CONN.

For more details circle **NED-8137** on enclosed inquiry slip

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle **NED-8138** on enclosed inquiry slip

NOW, not later-

is the time to GAGE-UP with INDICATING GAGES

Now, while you are getting set to produce government contract work, get dimensional control gages that will help to make workpieces *right the first time*. Get modern Federal Indicating Gages — they point out production trends so you can remedy machine set-ups and tool settings before production goes scrap-happy.

1. Federal offers mechanical, electrical, electronic, and air gaging systems.
2. Federal offers the most complete variety of Dial Indicators and Indicating Dimensional Gages.
3. Federal offers the experience gained in designing over 20,000 Indicating Gages.
4. Federal offers the services of its nationwide sales engineering organization.

Write today, giving complete details. Federal Products Corporation, 1711 Eddy St., Providence 1, R. I.

FEDERAL

Largest manufacturer of indicating type gages . . . exclusively.

▲ For more details circle **NED-8141** on enclosed inquiry slip ▲

For Laboratory Work! Small Unit Production!

HUPPERT Model 22 DeLuxe FURNACE

PROFITABLE PERFORMANCE

Temperatures maintained at any setting within range of 325°F. to 1800°F. by integral Huppert Infitrol Temperature Controller. Huppert Multi-insulation prevents heat loss from 4¼" x 3⅝" x 9" work chamber, holding operating cost to absolute minimum. Current consumption is 1600 watts—110 volts AC.

LONG LIFE

Sturdy all-steel construction—with rugged Kanthal elements, two removable porcelain trays and totally enclosed contacts.

Complete with Pyrometer, as illustrated **$100.00**

Same Model, but All Stainless Steel **$120.00**

Manually Controlled Standard Model 22 **$80.00**

Send for Complete Huppert Catalog

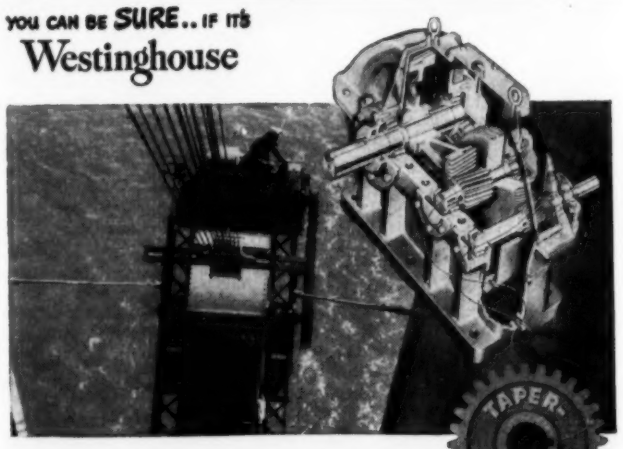
K. H. HUPPERT. CO.

6838 Cottage Grove Avenue Chicago 37, Illinois

Manufacturers of Electric Furnaces and Ovens

▲ For more details circle **NED-8142** on enclosed inquiry slip ▲

YOU CAN BE SURE.. IF IT'S Westinghouse



Muscles for a Marine Leg

Probing deep into the holds of Great Lakes grain carriers, this mighty marine leg lifts 2,100,000 pounds of wheat per hour.

Westinghouse Motors and Speed Reducers provide the muscles for this giant leg. The Henkel Flour Mills of Detroit, Michigan, chose Westinghouse Speed Reducers for their reliability and for the sales and engineering help supplied.

They have performed flawlessly and the tough "Taper-Hardened" gears will take this punishing load effortlessly and quietly for years to come.

For complete speed reducer information, write Westinghouse Electric Corporation, Dept. 811, Box 868, Pittsburgh 30, Pa. for Bulletin DB-3700-SR. J-07294

Westinghouse GEARED DRIVES

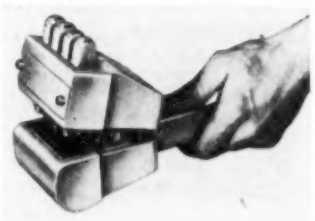
▲ For more details circle **NED-8143** on enclosed inquiry slip ▲

INTERCOMMUNICATING TELEPHONES are pushbutton signalling type

Through various combinations of single-button and six-button telephones, types 1, 2 and 3 Idealfone systems offer facilities for serving two to eight stations on code ringing, selective ringing or master station basis. Compact plastic handset telephones employ single metallic talking circuit and are adaptable to either desk or wall use. Type 4 system for executive-secretary telephone service consists of illustrated desk-type plastic speaker cabinet connected to handset Idealfone for secretary's desk. Adequate speaker volume and sensitive microphone facilities for executive's office are provided without use of vacuum tube amplifier or talk-listen key. Made by **Automatic Electric Sales Corp.**, 1001 W. Van Buren St., Chicago 7, Ill.

▲ For more details circle **NED-8144** on enclosed inquiry slip ▲

STAMPING TOOL marks steel sheet and strip stock



Almost any size or number of characters can be accommodated in holder section of model JG-1 stamping tool for flat thin metals. Top swivels upward by finger pressure so holder can be slipped over piece to be marked. When pressure is released springs drop top into position for marking by striking each stamp individually with lightweight hammer. Construction features aluminum body with steel holder bottom to minimize distortion. Made by **M. E. Cunningham Co.**, 151 E. Carson St., Pittsburgh 19, Pa.

▲ For more details circle **NED-8145** on enclosed inquiry slip ▲

ARBOR PRESS slots hold 1/4, 1/2 and 3/4-in. work

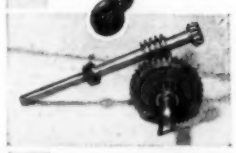
Recommended for light production and assembly presswork, HP-600 hand-operated arbor press provides 800-lb pressure at 16:1 ratio for pressing small shafts, gears, wheels and bushings. Table has 3-in. diameter and base of frame has 1-in. arbor opening to serve as auxiliary table. Frame is 7¾ in. high and will accommodate up to 4⅝-in. diameter work 5 in. above base. Ram is ½-in. square and ram travel is 2⅝ in. Arbor is constructed of close-grained iron castings with steel ram and pinion. Ram bearings are machined vertical to frame and ram take-up is provided. Made by **H. D. Herder Tool Specialties**, Dept. DE, 2020 Brook Dr., Kalamazoo, Mich.

▲ For more details circle **NED-8146** on enclosed inquiry slip ▲

4 TIMKEN BEARINGS! Kalamazoo

METAL CUTTING BAND SAW

KALAMAZOO MODELS — 816-S — 824-S (COOLANT EQUIPMENT AVAILABLE)



Only Kalamazoo offers an all Timken bearing drive unit for longer, smoother-running cutting performance—an engineering exclusive typical of the sturdy, rugged Kalamazoo construction. Cuts bars, angles, tubes, pipe, and odd shapes. Leaves no burr, minimum kerf. Change blades in 30 seconds. "Full view" of any cut. Write today for full details on lower cost metal cutting the Kalamazoo way!

MACHINE TOOL DIV. *Kalamazoo* TANK and SILO CO.

1124 HARRISON STREET • KALAMAZOO 16, MICHIGAN

▲ For more details circle **NED-8147** on enclosed inquiry slip ▲

A Simple, Dependable MOTOR OPERATED VALVE

IF YOU are looking for a simple, economical and dependable motor operated flow control valve, you can't beat the Davis No. 300. It is equipped with a standard motor assembly, connected directly to the valve stem. Because the motor is adaptable to standard thermostat control, this valve is popular for steam or hot water heating system service, particularly where zone control is desired. Also used extensively to shut off house or processing water supply, in event of fire, diverting entire water supply to automatic sprinklers, operation being accomplished through the sprinkler alarm system.

No. 300 is available in sizes from ½" to 6". Balanced or single seated inner valves for various service requirements. Other designs for higher pressures and larger sizes. Bulletin on request.

DAVIS REGULATOR CO. 2531 South Washtenaw Ave. Chicago 8, Illinois

▲ For more details circle **NED-8148** on enclosed inquiry slip ▲

or, How to Remove Dust from the Air at a Profit

by Fred Deane

Naturally I hate to part with a hard-earned buck just as much as the next guy. When I let go of one I want to be sure of getting 99 and 10/10 cents worth back. And just between you and me, my happiest days come when I can get a bit more than a buck's worth.

What I'm getting at is this. When it comes to dust collection, an *American* Dustube has the uncanny knack of delivering more than a dollar's worth. Kind of a bonus, I guess you'd call it, sometimes thousands of dollars a year.

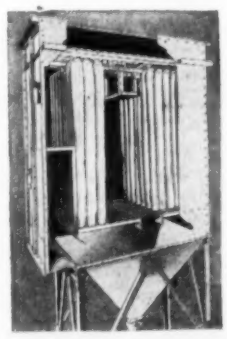
I found this out by looking at the records of twenty-three installations. Some were big, some were little. Most of them were put in chiefly to eliminate the dust nuisance. So you can call it a pure bonus when the recovered dust turned out to be okay to use or sell. Happens often, too, with Dustube.

Now the second place this bonus comes in, is in operating cost. As the *American* engineers explained it to me, Dustube has a very simple design. Thus it works easily with very little wear and tear. Doesn't cost much to run, and you hardly ever have to look at it. A man can walk right into the clean air side to inspect it. Should a tube need replacing, it only takes a minute to make the change, and you don't need tools to do it.

Possibly you are investigating new dust collecting equipment. (Or maybe you've been putting it off.) May I encourage you to write *American* and ask them to show you some of the performance data they showed me? Their engineers usually come up with sound cost-cutting recommendations. Write for this literature, today.

Sincerely,

Fred Deane



DUSTUBE ADVANTAGES

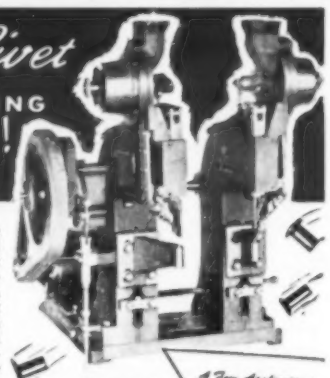
- BETTER DUST REMOVAL
- POWER SAVINGS
- HIGH EFFICIENCY
- EASE OF INSPECTION
- LESS FILTER WEAR
- FASTER FILTER REPLACEMENT

American WHEELABRATOR & EQUIPMENT CORP. 508 S. Byrkit St., Mishawaka 8, Ind. **dustube** COLLECTORS

▲ For more details circle **NED-8149** on enclosed inquiry slip ▲

Chicago Rivet

AUTOMATIC SETTING SLASHES UNIT COSTS!



If your product involves a fastening operation—wood to wood, metal to metal, fabric to fabric, composition to composition, or any combination of these—you can slash unit costs by increasing production volume with high speed Chicago Rivet Automatic Setters and Chicago Rivet tubular or split rivets. Four rivets are automatically fed, inserted and upset at one release of the foot pedal by the quadruple mode! Chicago Rivet Setter. Single, double and triple setters are also available.

Bench type Double Rivet Setter with Adjustable Riveting Centers

Quick change hoppers, available as extra equipment, enable some models to switch quickly from one size and style rivet to another. Nearly all models clinch grommets, eyelets, staples and Dzus fasteners and insert drive screws—all automatically.

A Few Applications

AIRPLANE PARTS, AUTOMOBILE PARTS, BEAUTY PARLOR EQUIPMENT, BED SPRINGS, BELTS & BICYCLES, CAMERAS, CAN OPENERS, CANVAS GOODS, CARD TABLES, CASH REGISTER, CLOCKS, COFFEE POTS, DOOR LOCKS, ELECTRICAL PARTS, FAN BLADES, FARM IMPLEMENTS, FILING EQUIPMENT, FIREARMS, FOLDING CHAIRS, FURNITURE, GARBAGE CANS, HARNESS, INDUSTRIAL BROOMS, INSTRUMENTS, IRONING BOARDS, KNIVES, LAMPS, LAWN MOWERS, LEATHER GOODS, LOOSE-LEAF BOOKS, LUGGAGE, MILK BOTTLE CRATES, NOVELTIES, POTS, PANS & PAILS, PULLEYS, RADIO PARTS, REFRIGERATORS, RUBBER GOODS, SEWING MACHINES, SHOES & SKATES, STEP LADDERS, STOVES, TELEPHONES, TOASTERS & TOYS, TYPEWRITERS, VENTILATORS, WASHING MACHINES

FREE FASTENING CLINIC

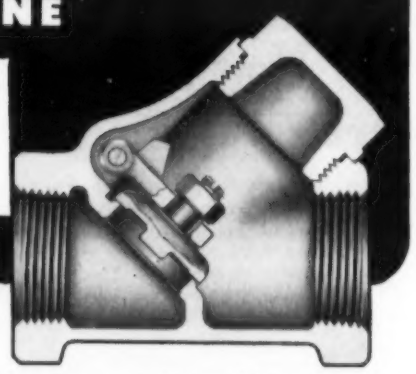
If your product is small, send us an unfastened sample. If it's large, send a sub-assembly. We will gladly analyze your fastening problem, recommend the type rivet and Chicago Rivet Automatic Setter needed and estimate production rates that can be set up on the job.

Chicago Rivet CHICAGO RIVET & MACHINE CO. 9606 W. Jackson Blvd., Bellwood, Ill.

For more details circle NED-8150 on enclosed inquiry slip

NEW...re-grinding BRASS SWING CHECKS by CRANE

Y-PATTERN 200 AND 300-POUND



You get better service from . . . easier servicing of . . . new Crane Brass Regrinding Swing Checks. They give ample flow capacity, fast closure, easier access to internal parts. Features below show how these valves assure dependable operation . . . freedom from high maintenance costs.

QUICK CLOSURE AGAINST BACKFLOW—Properly balanced disc closes of own weight on 45° angle seat when flow stops. Since disc swings in direct relation to flow . . . closing as flow diminishes . . . backflow never gains excessive velocity.

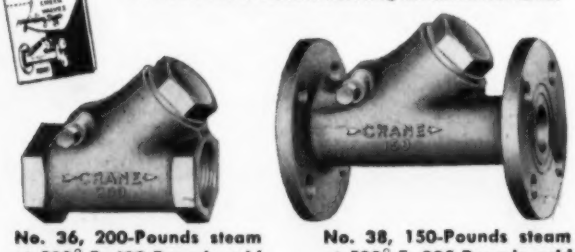
INCREASED FLOW CAPACITY—Crane Y-Pattern body has full area at all points. Smooth interior contours reduce pressure drop and flow resistance to the minimum.

SIMPLER TO SERVICE—Large cap opening, on same centerline as seat opening, gives perfect "in-line" access. Valves can be reground without removing body from line.

LONG-LIVED MATERIALS—Body is Crane Special Brass, a high grade alloy used for high pressure valves at temperatures up to 550° F. Hinge pin is aluminum-silicon bronze.

SEND FOR THIS NEW FOLDER—Includes all essential specification data, service recommendations, list prices. See your Crane Man, or WRITE FOR FOLDER AD-1860.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas



No. 36, 200-Pounds steam at 500° F; 400-Pounds cold water, oil, gas.

No. 38, 150-Pounds steam at 500° F; 225-Pounds cold water, oil, gas.

No. 76E, 300-Pounds steam at 550° F; up to 1000° cold services. Sizes: ¼ to 3-in. Screwed ends.

No. 77E, 300-Pounds steam at 550° F; 500-Pounds cold services. Sizes: 1 to 3-in. Flanged ends.

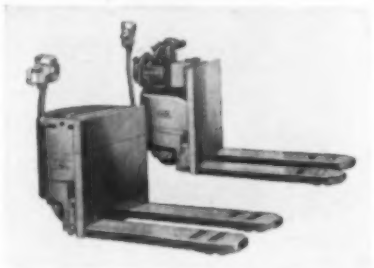
EVERYTHING FOR EVERY PIPING SYSTEM

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

For more details circle NED-8151 on enclosed inquiry slip

HAND TRUCKS
battery and gasoline-engine powered types have 6000-lb load capacity

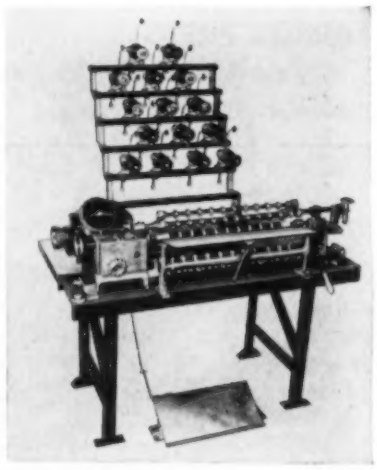


Compact in design, these hand trucks are available as Electro-Lift battery-powered type with motor drive or as Hydro-Lift model with gasoline-engine driven hydraulic pump and motor drive. They utilize same frame construction with short wheelbase and turning radius. Trucks feature ample power for peak loads, maintenance accessibility, fully-enclosed drive unit, mechanical self-energizing brakes, ample underclearance and 14-in. drive tire which carries large proportion of load. Both types have motor mounted inside drive wheel, with drive shaft driving through triple reduction of 32 to 1 into internal gear attached to wheel.

Battery-powered model employs compound-wound motor which develops 1¼ hp. Its compact hydraulic system is designed as one unit with single line running to lift cylinders. Rated 5.5 hp at governed speed of 2800 rpm, Hydro-Lift model has two-cylinder opposed type air-cooled engine. Engine drives hydraulic pump of eccentric vane type with infinitely variable displacement from 0 to 15 gpm. Pump drives constant-displacement vane-type hydraulic motor with sequence valve. Motor develops 90 per cent of full torque below 10 rpm, and eccentric pump makes it impossible to stall engine. Valve linkage to throttle provides finger-tip reversing. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-8152 on enclosed inquiry slip

TRANSFORMER WINDER
makes up to 9-in. diameter coils



Wire sizes from No. 18 to No. 46 B&S can be handled on this model 37S transformer winding machine which will multiple-wind power, audio, automotive, fluorescent ballast and other coils. Screw feed assures accurate margins, and 30-in. mandrels can be used. Thirty or more coils can be wound simultaneously and all turns are registered accurately on 6-in. clock-face dial counter. Set-ups can be changed in 5 minutes, and gear chart facilitates setting for wire spacing. Tilting table pre-cut paper feed is standard, and roll paper feed is optional. Twelve T-1 tensions and spool rack are supplied. Variable speed, uniform torque, ¼-hp motor is controlled by foot treadle. Made by **Geo. Stevens Mfg. Co.**, 6024 N. Rogers Ave., Chicago 30, Ill.

For more details circle NED-8153 on enclosed inquiry slip

ferrox* A NON-SLIP, SURE GRIP ABRASIVE FLOOR COVERING

FOR SAFE FOOTING UNDER WET, DRY OR OILY CONDITIONS

anyone can apply ferrox*

...on any floor or walking surface. First, clean floor surface until free from dirt, grease, etc. Paint does not need to be removed if it has a good bond.

For Small Areas, Mask Off—With steel trowel, apply one thin coat.

Apply Second Filling Coat—After drying first coat 1-3 hours.

Remove Masking Tape—Allow 8-10 hours drying. Then ready for use—underfoot safety assured.

Safe Floors at Low Cost
1 gal. can—$7.50 per gal.
5 gal. can—$7.25 per gal.
One gal. covers 40 sq. ft.
Colors: red, gray, blue, black, green.

For free literature illustrating uses and application data, write or phone Bob Eastty.

AMERICAN ABRASIVE METALS CO.

469 COIT STREET • IRVINGTON, N. J. • Phone: ESsex 3-7060

*Reg. U. S. Pat. Off.

For more details circle NED-8154 on enclosed inquiry slip

PIPE MARKERS

anyone can use—everyone can read

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on handy cards . . . stick without moistening. Names of materials printed in large black letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, ***including all materials listed in ASA Standard A13,*** available on Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Silicone Plastic coated to resist dirt, grease, fumes, moisture . . . indoors or out. Replace slow and costly painting and hand stenciling. Exclusive Starter-Strip automatically releases part of label for fast peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. ***QUIK-LABELS leave no room for doubt . . . or tragedy.*** Write for useful literature and FREE SAMPLES today.

FREE SAMPLES

W. H. BRADY COMPANY Established 1914

Manufacturers of Self-Sticking Tape Products
Chippewa Falls 5, Wisconsin • Distributors in 125 Cities

For more details circle NED-8155 on enclosed inquiry slip

INSTANT, LOW-COST WAY TO Control Machine Speed

Vari-Pitch AUTOMATIC SHEAVE

THIS NEW SHEAVE is the *lowest-cost* way of controlling speeds while machines are running. One sheave does everything *automatically*. Speed changes from 1½ to 60 hp. 100% range; 2 to 1 ratio.

Can this new sheave show *you* the way to increase production by setting operating speeds at exactly the right tempo for highest production? How to improve quality, or change to new materials, all at the twist of a wrist? For complete facts and figures on how the new *Vari-Pitch* Automatic Sheave can save you money, call your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7223. A-2928

Vari-Pitch is an Allis-Chalmers trademark.

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS

For more details circle NED-8156 on enclosed inquiry slip

Slash cutting oil and coolant consumption with NUGENT Pressure Filters

Write for bulletin which completely describes Nugent cutting oil and coolant filters.

Three important benefits are offered when your machine tools are equipped with Nugent cutting oil and coolant filters . . . oil consumption is reduced . . . tools are protected against unnecessary wear . . . better machining with fewer rejects is assured.

With Nugent filters you get up to 20 times greater filtering area (compared to other filters of comparable size) plus ease of installation and maximum life with minimum maintenance. Capacities range from ¼ to 320 GPM.

Write for specific recommendations.

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
421 N. Hermitage Ave. CHICAGO, 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

For more details circle NED-8157 on enclosed inquiry slip

OZALID speeds up drafting time, cuts overhead costs

60 TIMES FASTER!

Ozalid is a *speedy copying process* that reproduces anything drawn, typed or written *60* times faster!* Faster because changes on drawings, specifications, reports are instantly made with an Ozalid "intermediate"...faster because Ozalid copies *any size*, in sheets or continuous rolls.

**If light won't shine through an inexpensive intermediary step is taken.*

FREE! For complete information send for booklet. OZALID, Dept. 16, Johnson City, N. Y. Or call your local OZALID distributor, listed in the classified telephone book.

Cut Copying Costs ... Use OZALID

Johnson City, New York.
Ozalid in Canada—Hughes Owens Co. Ltd., Montreal.
A Division of General Aniline & Film Corporation.
"From Research to Reality"

For more details circle **NED-8158** on enclosed inquiry slip

HOLE SIZE CONTROL GAGE indicates stock removal while honing

Available for use with model MBB, model MB beginning with serial No. 10,400 and model MBH beginning with serial No. 301 honing machines, this MBB-720 size control gage is precision indicator that is actuated by stone feed-up dial. Gage shows how fast and how much stone feeds up and indicates when to gage hole. Its use aids holding close tolerances, reduces rejects and permits unskilled help to do good work without extensive training. Made by **Sunnen Products Co.,** 8001 Manchester Ave., St. Louis 17, Mo.

For more details circle **NED-8160** on enclosed inquiry slip

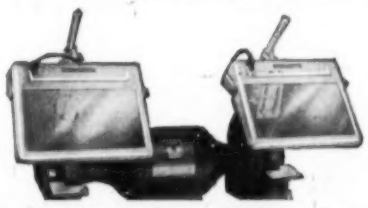
SCREW THREAD INSERT KIT facilitates on-the-job installation

Recommended for maintenance, production work and field service, Heli-Coil screw thread insert kit provides assortment of inserts for screw threads from No. 6 to 1½-in. size in American NC and NF series as well as for spark plug and taper pipe thread sizes. Illustrated kit contains tap, inserting tool, staking tool, extracting tool and supply of inserts for 14-mm spark plugs. Simplified kits can be obtained for industrial, aviation, marine and machine shop use. Made by **Heli-Coil Corp.,** 47-61 35th St., Long Island City 1, N. Y.

For more details circle **NED-8161** on enclosed inquiry slip

SAFETY EYESHIELD contains light concentrated on work

Protection from grinding, sanding or polishing dust and from machine or tool chips is afforded by No. 630 Flud-Lite eyeshield. It can be mounted on any type machine to horizontal or vertical surface with square frame arm post in horizontal or vertical plane. Safety glass for 6 x 10 in. window is covered on underside with plain glass for economical replacement when pitted or damaged. Height and angle can be adjusted to most desirable working position. Special bulbs with filament supported to withstand vibration concentrate light on work. Made by **Stanley Works,** Stanley Electric Tools Div., 104 Elm St., New Britain, Conn.



For more details circle **NED-8162** on enclosed inquiry slip

NEW! Volatile Solvent CARBON MET

A HALOGENATED AROMATIC HYDROCARBON

A specific replacement for toxic Carbon Tetrachloride

Out and out metal dry cleaning solvent and degreaser in ready-to-use "Handy Kit" containing Patented dip and drier basket.*

U. S. Pat. 2318842

- Quick Cutting solvent against stubborn dirt and grease.
- Non-Explosive and relatively non-toxic.
- Non-Corrosive to metals.
- Fast, clean evaporation.
- Non-Ionic . . . ideal for degreasing and cleaning electrical parts.

MUCH FASTER CUTTING THAN "CARBON TET" . . . CAUSES NO RUSTING . . . LEAVES NO FILM

*also economical 55 gal. size drum

IMMEDIATE DELIVERY 1 GALLON OR A TANK CAR

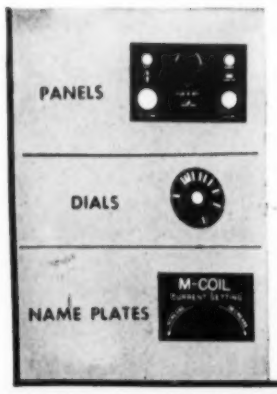
CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

120 South Canal St.

For more details circle **NED-8164** on enclosed inquiry slip

So Simple Anyone can **ENGRAVE** on Plastic and Metal

new hermes Engravograph



- Multiratio Tracing Arm. Engraves more than 15 sizes from ONE template.
- Covers a larger engraving area than any other portable unit of its kind.
- Ideal for any lettering.

Send for Booklet Model 1M

NEW HERMES, INC.
Dept. No. 26
13-19 UNIVERSITY PL. N.Y. 3, N.Y.
World's Largest Manufacturer of Portable Engraving Machines.

For more details circle **NED-8165** on enclosed inquiry slip

Write for Catalog OF USES and SPECIFICATIONS

GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
- TIME
- LABOR
- FLOORS

REDUCE
- BREAKAGE
- MAINTENANCE
- COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.

Rigid CASTER FORKS Swivel

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

More AIR VOLUME • *More* STABILITY • *More* LOAD CAPACITY
DELIVERS *Long Mileage* IN HI-SPEED SERVICE

SEND FOR CATALOG ... DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

For more details circle **NED-8159** on enclosed inquiry slip

for LOWER COST Materials Handling

Whether you figure by years of use or by tons handled, BAL tote boxes cost less because they last longer. They're *hard fibre*, built to last!

Easy to handle, hard to wear out; and double-strength at ALL reinforcements. Trucks as well as tote boxes made in many sizes for various purposes.

TRUCKS & TOTE BOXES

BAL "BUILT WITH A CONSCIENCE"

WILLIAM BAL CORPORATION
11 Johnson Street, Newark 5, N. J.

For more details circle **NED-8163** on enclosed inquiry slip

QUICK...ACCURATE "ON-THE-SPOT" INSPECTION!

IT'S EASY—WHEN YOU CARRY THE PIKE **"PEN" MICROSCOPE**
SELF-ILLUMINATED MAGNIFIER IN YOUR VEST OR JACKET POCKET

CHECK THESE BIG FEATURES:

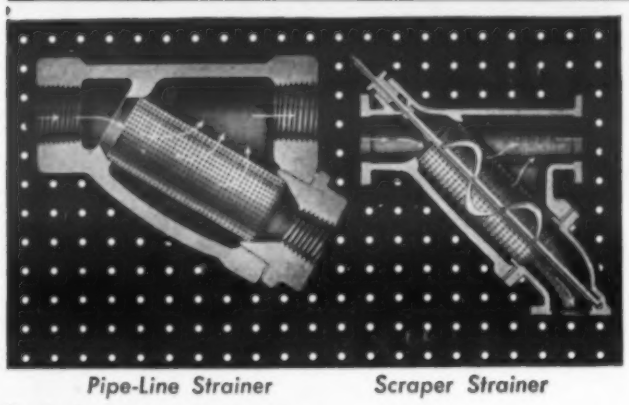
- Quick adjustment gives you 40, 50, or 60 power, self-illuminating magnification
- Equivalent of standard lab microscope, yet no longer than a fountain pen
- Perfect for examining minute detail in plant, office, lab, home
- Beautiful satin nickel finish

$15.75 (IN LEATHER CASE)

SATISFACTION GUARANTEED or money back in 5 days. Send check or money order or write for free illustrated folder.

E. W. PIKE & CO., 492 North Ave., Elizabeth 3, N. J.
(NED 11-50)
☐ Please send me ____ "Pen" Microscopes for which I enclose my (check, money order) for _____
☐ Please send me free illustrated folder.
Name _____ Title _____
Company _____
Street _____
City _____ State _____

For more details circle **NED-8166** on enclosed inquiry slip



Pipe-Line Strainer Scraper Strainer

Strainers protect steam traps, regulating and reducing valves, pumps, meters or nozzles. Also, keep impurities out of fluids of all kinds. Available with scrapers for operation without interruptions for cleaning screens. Catalog Nos. 1200 and 1225.

SARCO PIPE LINE STRAINERS

293

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

For more details circle NED-8167 on enclosed inquiry slip

From simple deburring to exact sizing and finishing,

New Model Sunnen Honing Machine Cuts Production Costs

- Higher production speeds
- Instant set-up
- No jigs or fixtures
- Heavier loads
- Greater flexibility
- Longer life

Hones metals, ceramics, glass; open and blind holes; holes with ports, lands, keyways. Ideal for Production, Salvage, Tool and Die Work, Maintenance.

Without an exception, manufacturers using Sunnen Honing have found that their own products run faster and quieter, perform better, last longer with Sunnen Honed bearings and cylinders. That's because they get just the right surface finish and the exact dimensional tolerance required.

And now Sunnen Honing is easier and faster than ever. Recent improvements speed up loading and unloading . . . provide smooth, vibrationless operation . . . increase operator efficiency. Diameter range, .120" to 5.5"; dimensional accuracy guaranteed to .0001"; surface finish to 2 micro-inches RMS in hardened steel. Average installation costs less than $1,000. Investigate now—Sunnen Honing may be your answer, too! Write for details of the new Model MBB Honing Machine.

SUNNEN PRODUCTS COMPANY
7966 Manchester Ave., St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

For more details circle NED-8168 on enclosed inquiry slip

DRAIN CLEANING TOOL
delivers air blast of 50 psi

Sluggish or plugged drains in toilet hoppers, sinks, wash basins and tubs can be cleaned quickly and easily by self-contained Drain Gun. Pressure of 50 psi inside cylinder is obtained by use of standard soda cartridge mounted in fitting on top which releases gas into cylinder. Quick push on cylinder handles actuates valve which shoots charge into clogged pipe. Rubber head is reversible to fit either hopper or pipe outlet, and rubber-faced plate is supplied to close line vent. Water standing in pipe between obstruction and muzzle of gun will act as hydraulic ram to move obstruction. Tool weighs 7 lb and is 19 in. long. Made by **Handling Devices Co.**, Dept. NED, 581 Boylston St., Boston 16, Mass.

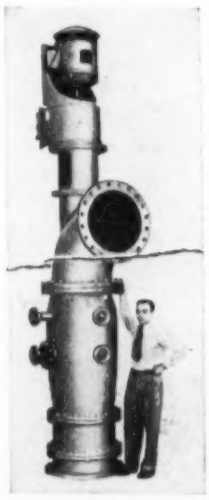
For more details circle NED-8169 on enclosed inquiry slip

LENS CLEANING KIT
can be wall-mounted at point of use

On-the-job cleaning of personal glasses, goggles, gas and sand blast masks and welding lenses is promoted by No-Fog lens cleaning station. Welded steel cabinet contains bottle of No-Fog liquid, spray pump and box of no-lint tissue. Liquid is sprayed on easily and can be wiped off instantly. Made by **Carhoff Co.**, 9321-A Buckeye Rd., Cleveland, O.

For more details circle NED-8170 on enclosed inquiry slip

LIQUID & CHEMICAL MIXER
gives uniform blending without tank



Developed to accomplish instantaneous even blending of liquid and one or more chemicals or gases with water, sewage or industrial waste, Homomix is rapid mix unit that functions without use of tank. It is constructed of one or more mixing stages and forms part of influent piping. Each stage consists of diffusing impeller rotating in blending chamber and driven by continuous shaft direct connected to prime mover. Introduction of chemicals to each chamber is made through tube adapted for handling applied solution, and mixing action can be seen through transparent observation port which can be opened for examination of rotating elements. Unit can be installed in vertical, horizontal or inclined position and is available in single or multiple types in sizes with 6 to 24-in. inlet and outlet openings. Made by **American Well Works**, 150 N. Broadway, Aurora, Ill.

For more details circle NED-8171 on enclosed inquiry slip

Wolverine PLUNGER TYPE TOGGLE CLAMP

W SINCE 1926

MODEL C-130-A

FAST . . . ACCURATE . . . POWERFUL

The combination of a precision ground plunger and an accurately broached hole permits this clamp to be used for locating as well as heavy duty clamping.

IMMEDIATE DELIVERY
Write for catalog.

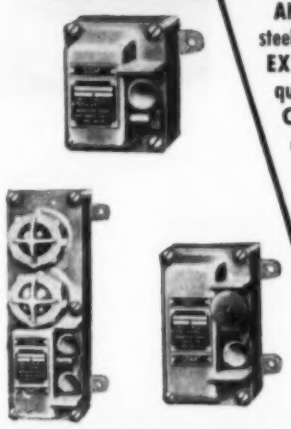
WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICH.

A WOLVERINE CLAMP TO SUIT YOUR NEEDS

For more details circle NED-8172 on enclosed inquiry slip

R&S PUSH BUTTONS — PILOT LIGHTS

Complete Line EXPLOSION-PROOF Class 1, Groups C & D



Meet ALL Standards PLUS

HEAVY DUTY and standard duty types.
RUGGED INTERIORS with up to 5 point silver to silver contacts.
ROCKER ARM ACTUATING MECHANISM with silicone coated stainless steel shaft for permanent free operation.
EXTENDED MUSHROOM HEAD for quick selection and operation.
CORROSION RESISTANT baked enamel finish.
SMALL . . . suitable as components for machine applications.
GROUP ASSEMBLIES in compact, panel form for economical field installation.
TYPE FS waterproof units.
TROUBLE-FREE, safe performance in hazardous locations insured by 48 years of design and manufacturing experience.
Write for catalog H47-15

A3

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

For more details circle NED-8173 on enclosed inquiry slip

NEW...

Extremely sensitive PRESSURE & VACUUM Switches

TYPE SB

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc-10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings at 125/250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 30"-0" hg vac with adjustable on-off differential from .1" wc-10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125/250 V AC.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street
Watertown, Mass.

Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 P giving complete details today.

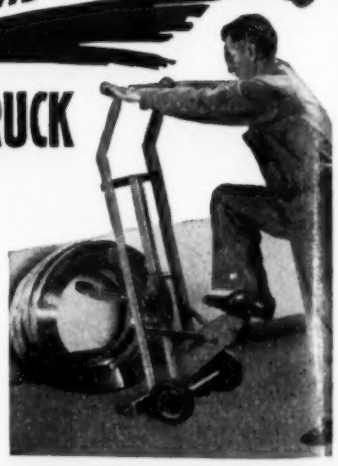
STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

For more details circle NED-8174 on enclosed inquiry slip

HANDLE Strip and Wire Coils

THE EASIEST AND CHEAPEST WAY

SABIN COIL TRUCK



Built especially for handling coils, tires, wheels or anything with a hole through it.

As truck is moved up to coils or other articles, the arm passes through hole, then an easy pull back on handle picks up load.

Follower wheel minimizes trucking effort.

Write For Bulletin

THE SABIN MACHINE CO.
6536 Carnegie Ave.
Cleveland 3, Ohio

THE SABIN LINE OF ONE-MAN TRUCKS *includes:*

KEG TRUCKS, PACKAGE TRUCKS, BOX TRUCKS, BARREL TRUCKS, DRUM TRUCKS, SHOP TRUCKS, TOTE PAN TRUCKS, SPECIAL TRUCKS.

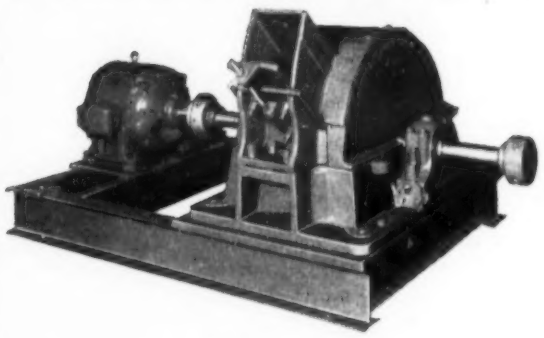
For more details circle NED-8175 on enclosed inquiry slip

GENERAL BOX COMPANY . .
★★★★★ *engineered shipping containers*

GENERAL OFFICES: Illinois & Dearborn Sts., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N.J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc., Houston, Dallas. General Box Company of Mississippi, Meridian, Miss.

▲ For more details circle **NED-8176** on enclosed inquiry slip ▲

M&M DISPOSAL EQUIPMENT



The importance of M & M Disposal Equipment in the woodworking industry cannot be overemphasized. In today's competitive market, the operator must lower production costs by using every available bit of waste. With one or more of these machines, he is equipped to produce economically the secondary products that bring in profits of primary importance. These machines are built in many types and sizes for slabs, edgings, trim, blocks, veneer, bark, and other combustible waste. Write for detailed information stating your problem completely.

MITTS & MERRILL
1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

▲ For more details circle **NED-8177** on enclosed inquiry slip ▲

Bond® *built-for-the-job* **CASTERS...** *right for every job!*

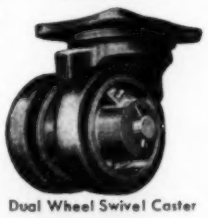
40A Series—Double Ball Race Structural Steel Swivel Caster

3A Series—Single Ball Race Swivel Caster

36A Series—Double Ball Race Swivel Caster

1A Series—Stationary Caster

23A Series—Double Ball Race Swivel Caster


Dual Wheel Swivel Caster

You just can't better the performance record of dependable, efficient, easy-rolling Bond Casters. Bonds are *built-for-the-job*—and that means trouble-free, profitable handling. Write for your copy of Bond Catalog K-38 with complete descriptions of all Bond Casters.

BOND FOUNDRY & MACHINE COMPANY
308 Penn St.
Manheim, Pa.

▲ For more details circle **NED-8178** on enclosed inquiry slip ▲

LOW PRESSURE CYLINDERS for air, oil or water service

Available in wide range of mounting styles, redesigned type HLW 14 and 16-in. diameter low pressure cylinders for 125-psi air or 160-psi hydraulic service employ cup-type pistons and chevron-type gland packings. Where large forces are required, 16-in. diameter cylinder will exert force of 10 tons on push stroke at 100 psi. End caps are furnished to same mounting dimensions either cushioned or noncushioned. Two large pipe ports are drilled in each cap: 1-in. diameter in 14-in. bore size and 1¼-in. diameter in 16-in. size. Double-end rods are available in most mounting styles and are turned, ground and polished. Bore diameters are Trubored and honed to satin finish. Made by **Hannifin Corp.**, 1128 S. Kilbourn Ave., Chicago 24, Ill.

▲ For more details circle **NED-8179** on enclosed inquiry slip ▲

TIERING TRUCK has 2000-lb 130-in. lift capacity

Single-cylinder low pressure hydraulic lift with cross suspension elevates forks of model 230 Jeep tiering truck. It has truck height of 83 in. and turning radius of 60 in. Operating features include inclined automotive steering, foot pedal acceleration, convenient controls and good visibility. Shockless center-point steering, cushion-type tires, magnetic contactor travel controls and unit power plant with double reduction gearing are utilized. Dash plate protects operator and hoist-tilt mechanism. Safety interlock prevents travel reversal while in running speed. Hoist and tilt limit switches, hydraulic overload relief valve and automatic regulation of lowering speed are other safety features. Made by **Mercury Mfg. Co.**, 4038 S. Halsted St., Chicago 9, Ill.

▲ For more details circle **NED-8180** on enclosed inquiry slip ▲

DO YOU KNOW? Steel is being produced so thin that it takes ten layers to equal the thickness of a human hair. Need for this super-thin alloy with special magnetic qualities resulted from development of high frequency electronic equipment. Thickness of strip is 0.00025-in. It is produced on tiny rolling mill with work rolls only $\frac{1}{16}$-in. in diameter by Armco Steel Corp., 1000 Curtis St., Middletown, O.

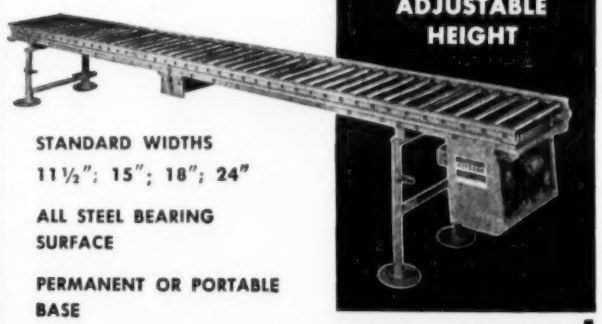
▲ For more details circle **NED-8181** on enclosed inquiry slip ▲

KEEP THINGS *MOVING* with a METZGAR "LIVE ROLLER" POWER UNIT

Handles the jobs that are too "tough" for powered belt units. Undamaged by sharp corners or rough edged work. Supplies dependable power in gravity lines.

Work can be slowed or held without stopping conveyor

4 STANDARD SIZES
ADJUSTABLE HEIGHT



STANDARD WIDTHS
11½"; 15"; 18"; 24"

ALL STEEL BEARING SURFACE

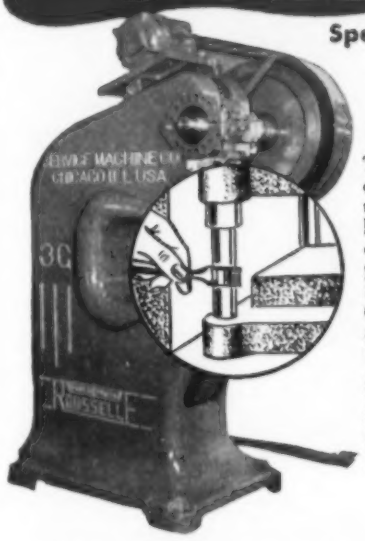
PERMANENT OR PORTABLE BASE

For Full Specifications and Price write for folder No. 1249

METZGAR CONVEYORS
METZGAR CO.
416 Douglas St., N. W.
GRAND RAPIDS 4, MICH.

▲ For more details circle **NED-8182** on enclosed inquiry slip ▲

Insist on
COMPLETE PROTECTION for Pins and Bushings!



Specify **CMD** *Anti-Scoring* **LUBRICANTS**

These Concentrated lubricants have no equal for use on guide posts and bushings of die sets because they give *Complete* protection for a long period of time. Check their many outstanding advantages.

1. They outlast ordinary lubricants three to one.
2. They prevent any metal to metal contact.
3. They increase die life.
4. No scoring or seizure.
5. Will not drip off.
6. Will not corrode.

Write for FREE sample kit of one tube each of CMD Center Point Lube and CMD Center Point Oil. Address Department 11-NED.

Chicago Manufacturing & Distributing Co.
1928 West 46th Street Chicago 9, Illinois

▲ For more details circle **NED-8183** on enclosed inquiry slip ▲

CUT LABOR COSTS with *Commander* PRODUCTION TOOLS

Adjustable **MULTI-DRILL**
★ Drills Up to 8 Holes At 1 Stroke
★ Adjustable to *Any* Hole Pattern
★ Fits *Any* Drill Press

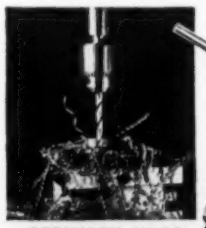
You can drill 2 to 8 holes at one stroke of a MULTI-DRILL equipped drill press. Instantly and easily adjusted to any hole pattern . . . compact in design and ruggedly built for years of service, thousands of MULTI-DRILLS are cutting costs and increasing output up to 800% wherever metal, wood or plastics are drilled.

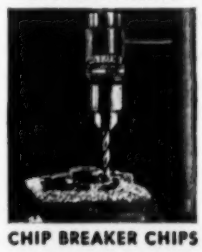
Commander **TAPPER**

★ 1 Tapper Handles Taps #0 to ¾"
★ Automatically Sensitive... Any Operator Can Do Precision Tapping
★ Fits ANY Drill Press

The Tapper that "Thinks for the Operator"

Commander Tappers "think for the operator"—automatically stop when taps are dull, overloaded, or when they strike bottom in blind hole tapping—permit faster tapping, better work, even with inexperienced operators. Torque control provides positive tap protection from #0 to ¾" . . . spring clutch eliminates slippage, assures smooth, quiet, easy operation.


ORDINARY CHIPS


CHIP BREAKER CHIPS

New **DRILL CHIP BREAKER**

Get these COMMANDER DRILL CHIP BREAKER benefits now:

- Faster Drilling
- Deeper Holes
- Better Holes
- Longer Drill Life
- Safer, Cleaner Work
- REDUCED DRILLING COSTS

Write for illustrated Circulars on Commander Production Tools. Your nearby Commander Distributor carries the full line—write for his name.

***Commander* MFG. CO.**
4220 W. KINZIE ST. • CHICAGO 24, ILL.

▲ For more details circle **NED-8184** on enclosed inquiry slip ▲

USE ESSEX WIRING HARNESS AND CONTROL ASSEMBLIES

For Dependability, Simplified Installation and Low Overall Cost

Assembling electrical harnesses and controls may be costing you too much in time and plant space under today's competitive conditions. Then it's time to call on Essex.

Essex engineers, processes and controls assemblies from wire bar to your electrical appliance, dispensing machine or machine tool through a network of 20 plants and a team of specialists. This includes connectors, terminals, coils and relays. With an ESSEX WIRE ASSEMBLY you can end your electrical worries and actually profit from greater economy, proved dependability and precise uniformity. Essex engineers diagnose your problems and custom-build assemblies for your products. Essex will prove its point with a sample assembly to your specifications.

WIRE SX PRODUCTS

Wire Assembly Division

ESSEX WIRE CORPORATION

MONTICELLO, INDIANA

For more details circle **NED-8187** on enclosed inquiry slip

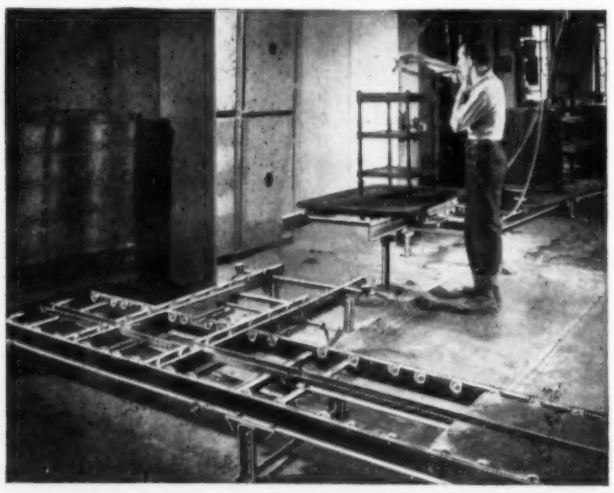
GUIDED PALLET CONVEYOR* . . Combines quality control and speed on production line

Source: The RAPIDS-STANDARD COMPANY, Inc. 356 Rapistan Bldg., Grand Rapids, Mich.

A radically different approach to production line problems — the new, Guided Pallet Conveyor permits finer workmanship, at greater speed, and at lower cost than ever before. Damage to products is virtually eliminated and work-in-process is reduced. Well within the budget of any plant, this new conveyor system is quickly adaptable to widely varying assembly, processing and finishing operations. Most of the Guided Pallet line consists of low-cost gravity conveyor. At work points (see illustration) air-lift work station turntables allow pallet rotation for convenient work positioning.

The new Guided Pallet Conveyor system allows a workman to vary his time as more difficult work comes to his station. This insures fine quality and still keeps production going at average rate of speed with which the conveyor line is loaded. With the Guided Pallet Conveyor, the *line* can be fitted to the *problem*. New layouts can be made easily and quickly, whenever necessary, without expensive plant shutdowns. Line rerouting becomes as simple as the rearrangement of a toy train track.

Although Guided Pallet Conveyor permits variable processing time, the average production speed of a worker is increased, because handling duties are eliminated. On one finishing line where Guided Pallet Conveyor has been installed, two lacquer coats are now applied faster by one workman, than by two workers under the old system.



Original investment for Guided Pallet Conveyor is less than half that of other types and installation cost is approximately 75% lower. The line can be installed quickly, without interruption of normal production.

Guided Pallet technical information and typical application photographs may be obtained by writing to The Rapids-Standard Company, Inc.

To determine Guided Pallet application in your plant, consult your Rapids-Standard representative.

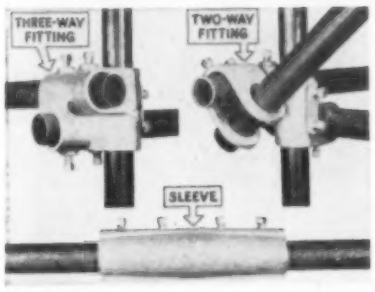
Rapistan® MATERIAL *flow* EQUIPMENT

*Pat. Pend.

356 Rapistan Bldg., Grand Rapids, Mich.

For more details circle **NED-8188** on enclosed inquiry slip

SCAFFOLDING FITTINGS connect standard 1-in. steel pipe



With these three fittings and standard pipe, scaffolds can be built to any length, depth, height and shape required. Horizontals can be placed at any desired working level and verticals can be fitted between obstructions. Three-way fitting connects longitudinal, transverse and vertical pipes into single corner joint or secures one or two diagonal braces. Two-way fitting fastens two pipes at right angles as in attaching single diagonals, guard rails and ladder rungs. Sleeve joins lengths of pipe and is means for attaching casters. Erection of scaffolding consists of sliding pipe into fittings and tightening two set screws at each joint. With horizontal and vertical spacing of 66 in. between pipes, scaffolds built with these fittings and 1-in. steel pipe meet all state safety requirements for safe working load of 3000 lb on each 66-in. square. Made by **Amidon Sales Co.,** P. O. Box 61-A, Elyria, O.

For more details circle **NED-8189** on enclosed inquiry slip

SURFACE FINISH COMPARATOR measures over area rather than line

Surface finish on flat or curved surfaces having diameter greater than 3¾ in. and where roughness ranges from 30 to 500 microinches rms can be checked with this Precisionaire surface finish comparator. Instrument shows reading which is actually measurement of escapement of air over ⅛-in. diameter circle. Repetitive readings can be taken and compared with another finish or with selected standard. Requiring approximately 6-in. sq bench room, instrument can be attached to any plant air supply line or air compressor. Comparator is supplied with right-hand scale of 20 to 110 micro inches, and with left hand scale of 100 to 300 micro inches with graduations in black and with graduations in red from 300 to 500 micro inches. Made by **Sheffield Corp.,** 721 Springfield St., Dayton 1, O.

For more details circle **NED-8190** on enclosed inquiry slip

DO YOU KNOW? "Getting the Right Job" is 16-page cartoon-illustrated booklet that is filled with helpful pointers for job seekers. Prepared by John H. Weeks, director of personnel relations, this book gives hints on distribution of data sheets, dressing for interviews, conduct during interviews and steps to be taken after interview. Copies are available free from Glidden Co., 1396 Union Commerce Bldg., Cleveland 14, O.

For more details circle **NED-8191** on enclosed inquiry slip

NO SEAT!

TO SCORE... WEAR... CLOG... AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

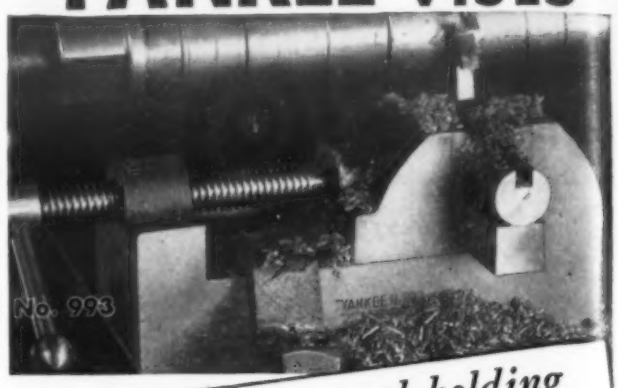
Cross section of Type "B" Seatless Angle Valve, Flanged.

YARNALL-WARING COMPANY
131 Mermaid Ave., Phila.18, Pa.

YARWAY BLOW-OFF VALVES

For more details circle **NED-8192** on enclosed inquiry slip

"YANKEE" VISES



for accurate, work holding
START-TO-FINISH

Every operation is lined up square and true in a "Yankee" Vise. Carefully machined . . . top, bottom, sides and front end to give accurate alignment in any position. Easily made into jig. V-grooved hardened steel block furnished with each "Yankee" Vise. Four sizes . . . 1½", 2", 2¾" and 4" jaw widths. Write for "Yankee" Tool Book.

YANKEE TOOLS NOW PART OF STANLEY THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

For more details circle **NED-8193** on enclosed inquiry slip

SEMI-LIVE SKIDS

Typical Ironbound Money-Savers

★ Short-haul units for carrying loads up to 2,500 lbs. safely and easily. Made of new billet steel and selected hardwood. Bolted construction allows replacement of deck. A short haul system is comparatively inexpensive because a few lift jacks will service many skids.

● This semi-live unit has permanently attached box top. Can also be made with removable top or tiering type top if required.

● Semi-live skid with stake pockets and removable side racks. Available also with end racks, wood or pipe stakes or super structures to meet individual requirements.

Bulletin 7-SL illustrates these units

Ironbound

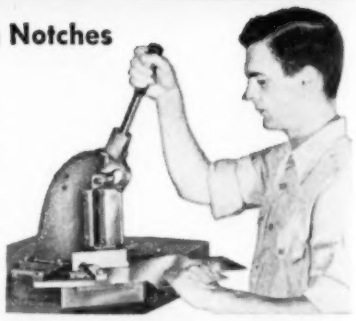
IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

For more details circle **NED-8194** on enclosed inquiry slip

THE di-acro NOTCHER

Duplicates Precision Notches WITHOUT DIES!



The new precision DI-ACRO Notcher eliminates the need for punch press and dies on many production notching operations. It is also ideal for experimental work as it can be quickly adjusted for any size or shape notch. Many straight shearing operations can also be performed with this flexible unit.

CUTS CLEAN — NO BURRS OR ROUGH EDGES
The powerful DI-ACRO Notcher has an exclusive roller bearing cam design which provides a tremendous pressure with a small amount of effort. The precision-ground Vee-shaped ram and blades of alloy tool steel assure clean cuts and permanent accuracy.

LARGE CAPACITY. The DI-ACRO Notcher cuts 90° notches up to 6" by 6" in 16 gauge steel in one operation. Larger notches, and wider or narrower angles, can also be obtained.

SEND FOR 40-PAGE CATALOG.
Gives full information on all six "DIE-LESS DUPLICATING" production boosters—DI-ACRO Benders, Brakes, Shears, Rod Parters, Punches, Notchers—with many examples of accurately duplicated parts.

DI-ACRO is pronounced "DIE-ACK-RO"

DI-ACRO PRECISION MACHINES DIE-LESS DUPLICATING

O'NEIL-IRWIN MFG. CO.
354 8th Avenue, LAKE CITY, MINN.

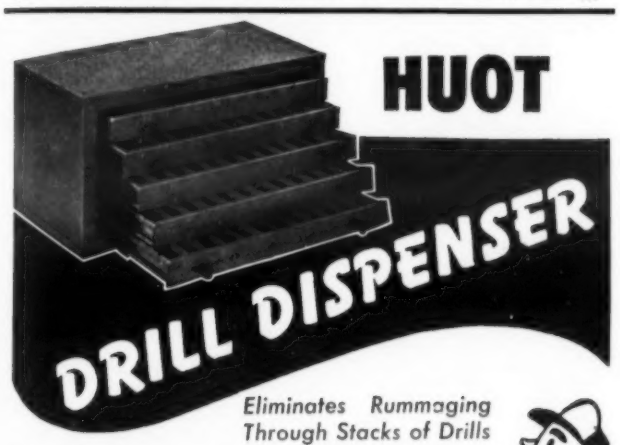
For more details circle **NED-8195** on enclosed inquiry slip

Asbestos Gloves for HOT Jobs

HANDLE hot things with safety. Wear Industrial's famous 210 asbestos gloves. Made of close woven 2½ lb. Underwriters Grade cloth that resists burning. Big, roomy cut, airy and comfortable. One piece construction with no seams at wrist or working edges to burn or pull out. Furnished lined or unlined. Almost 40 years experience designed and made these dependable gloves. Many styles. Write for prices and catalog.

Industrial Gloves Co.
1533 GARFIELD STREET, DANVILLE, ILLINOIS
In Canada: Safety Supply Company, Toronto

For more details circle NED-8196 on enclosed inquiry slip



Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the need for cost sheets, and will keep a record of drills on hand. Stack two or three cabinets to save space. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

Made in three models for fractional, number or letter drills.

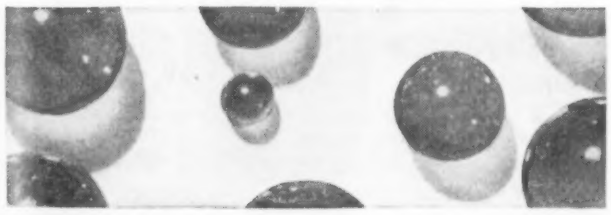
Write for Circular

HUOT MANUFACTURING CO.
571 No. Wheeler St., St. Paul W4, Minn.

By the makers of HUOT DRILL INDEX

For more details circle NED-8197 on enclosed inquiry slip

NOW—Precision Balls of Synthetic Sapphire



These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

PROPERTIES

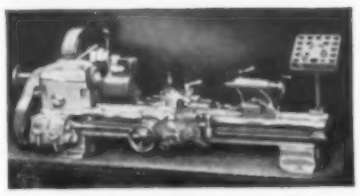
Coefficient of Friction	0.140
Hardness (Knoop)	1525-2000
Dielectric Constant	7.5-10
Modulus of Rigidity	21.5-27.5 x 10^6psi
Thermal Coefficient of Expansion at 50°C (per°C x 10^6)	5.0-6.7
Chemical Resistance	Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

For more details circle NED-8198 on enclosed inquiry slip

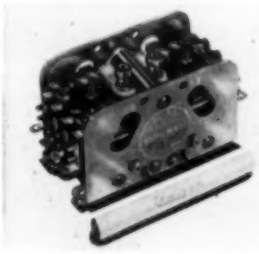
TEN-INCH TOOLROOM LATHE designed for precision work



Capable of accommodating up to 10-in. diameter work over bed, this Light Ten toolroom lathe is driven by ½-hp motor, has 6¼-in. swing over cross slide and distance between centers varying from 16⅛ to 28⅛ in. depending on bed length. Bed lengths of 3, 3½, and 4 ft are available and utilize prismatic hand-scraped bed way design. Headstock is back-geared to provide spindle speeds ranging from 48 to 1435 rpm. Lathe is supplied equipped with precision lead screw having 0.0015-in. or less lead variation in any 1 ft, handwheel draw-in collet attachment less collets, collet rack, taper attachment, thread dial indicator, thread cutting stop, large faceplate and micrometer carriage stop. Made by **South Bend Lathe Works,** 307 E. Madison St., South Bend 22, Ind.

For more details circle NED-8199 on enclosed inquiry slip

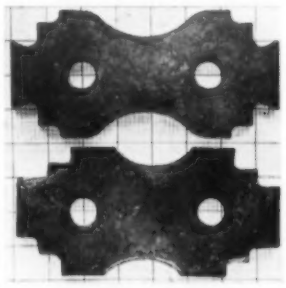
MAGNETIC CONTACTOR has sensitivity of polarized relay



Redesigned type 6 sensitive contactor has application in elaborate magnetic switch structures. Using three-position center stable armature suspension with or without differential windings, it functions as output device for servo amplifiers, giving two-way response with only one relay. When adjusted for full-stroke armature motion, relay latches securely after momentary operation to function as latching contactor. Because it does not depend on mechanical catches and is immune to effects of vibration, it can be used as overload protector in electronic and communication gear. Adjusted at high sensitivity with two-position spring biased armature and controlled by low-power plate circuit, it can switch several power circuits directly. Made by **Sigma Instruments, Inc.,** 41 Ceylon St., Boston 21, Mass.

For more details circle NED-8200 on enclosed inquiry slip

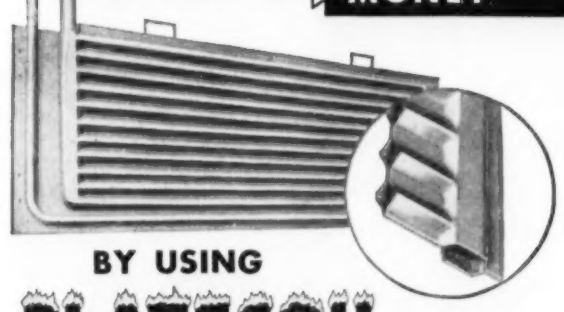
HAMMER MILL CHART accurately checks size and balance



Proportioned to actual size, this chart affords accurate and convenient means for checking size and balance of Jay Bee hammer mills. Illustration shows standard hammer at top and home-made unit at bottom. If hammer shows up on chart to be out-of-contour, with support rod holes unevenly located in respect to hammer ends as in bottom of illustration, it will affect mill performance. Hammer chart available free from **J. B. Sedberry, Inc.,** 100 Airline Rd., Franklin, Tenn.

For more details circle NED-8201 on enclosed inquiry slip

YOU SAVE STEEL MANHOURS MONEY



BY USING PLATECOIL FOR TANK HEATING AND COOLING

YOU SAVE CRITICAL STEEL because "Platecoils" require less than ½ the steel used in pipe coils of the same surface area. A 22" x 119" Platecoil weighs 95 lbs. against 239 lbs. for an equivalent 2" pipe coil. 144 lbs. steel saved. YOU SAVE CRITICAL MANHOURS because "Platecoils" are easily installed, cleaned or replaced in minutes . . . No down-time . . . No tank dumping. Many manhours saved. YOU SAVE MONEY because "Platecoils" cost up to 50% less in initial cost and require less maintenance. Investigate "Platecoils" today.

Send for complete technical manual and descriptive Bulletin No. P57

PLATECOIL Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

For more details circle NED-8202 on enclosed inquiry slip

Here's why EVERY shop needs Porto-Power

Right—10-ton hydraulic ram with pump and high-pressure hose.

Save up to 9 manhours moving a single machine! Do "1001" other tough jobs. No other equipment can do the work of low-cost "Porto-Power" remotely-controlled hydraulic jacks and attachments! 2, 4, 7, 10, 20 and 50-ton sizes. Buy from leading supply houses. Write for free catalog. Blackhawk Mfg. Co., Dept. P14110, Milwaukee 1, Wisconsin.

TOE-LIFT—Raise from a 1½" low. Replace crowbar methods. **PUSH, OVER ANY SPAN**—Eliminate hazardous blocking up. **PULL PULLEYS,** gears, wheels. No hammering or prying.

BEND PIPE and conduit the easy, profitable, fast way. **BEND RAIL.** Straighten parts. Insert or remove bushings, pins, etc. **FREE BLUEPRINTS** show how to build low-cost press for "Porto-Power".

BLACKHAWK

For more details circle NED-8203 on enclosed inquiry slip

At the Crompton & Knowles Looms Works
WORCESTER, MASS.

Every drawing is reproduced on KODAGRAPH AUTOPOSITIVE PAPER

HERE'S WHY: Crompton & Knowles, world's largest manufacturer of specialty looms, considered the dollars invested in its engineering drawings. Then they considered Kodagraph Autopositive Paper . . . its low price . . . the fact that it produces positive photographic intermediates *directly*. They realized that by using "Autopositives" as their blueprint masters they could protect their drawings . . . cut redrafting costs. And, at the same time, simplify their filing system.

200,000 detail drawings—4 to 8 drawings per sheet of paper—were in their files. These were reproduced on "Autopositive." Then the prints were cut, and filed in sequence—an impossibility before. In addition to increasing protection, this move made possible faster reference . . . reduced blueprint paper waste.

All new drawings are also reproduced on "Autopositive." The company's blueprint machine is used for the exposure operation, standard photographic solutions for development. *No negative step, no darkroom handling!*

Blueprint production is easier, too, they find. Their "Autopositives" have an evenly translucent high-quality paper base and dense photographic black lines, which will not smudge or lose opacity. Result—sharper, cleaner blueprints are produced at uniform, practical machine speeds.

Kodagraph Autopositive Paper
"THE BIG NEW PLUS" in engineering drawing reproduction

Write today for new, free booklet telling all about Kodagraph Autopositive Paper, which you, or your local blueprinter, can process conveniently, economically.

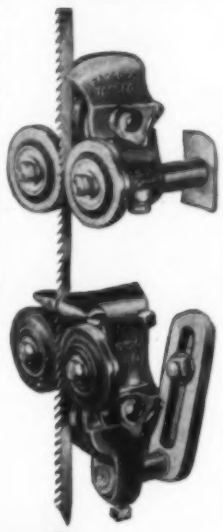
EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

For more details circle NED-8204 on enclosed inquiry slip

MORE SPEED MORE SUPPORT

PADDOCK BAND SAW GUIDES SAVE LABOR COST



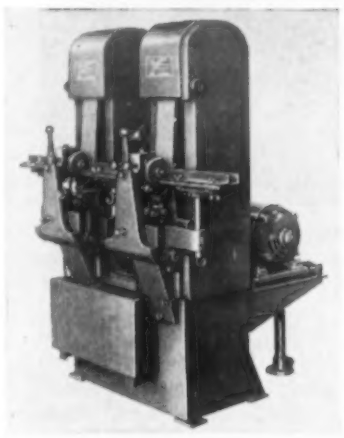
With all industries facing "war-time" need of conserving man-power and increasing production, PADDOCK BALL BEARING BAND SAW GUIDES are vitally important! We can give immediate delivery on these steel guides! Paddock Guides are equipped with ball bearing wheels which spin with the blade. Wheels are interchangeable for longer wear. Strong friction-free support means more materials cut—faster cutting—greater safety to workmen—reduction of blade breakage. Write today for circular and prices.

PADDOCK TOOL COMPANY
1418 Walnut Street Kansas City, Mo.
Guide Makers Since 1920

Paddock BALL-BEARING **BAND SAW GUIDES**

For more details circle NED-8205 on enclosed inquiry slip

POLISHING MACHINE
finishes small cylindrical work



Two-pass operations on metal, wood, fiber, plastic, glass and other materials can be handled by Four-Eighty-Four centerless superfinishing and polishing machine. Equipped with two polishing heads, machine uses abrasive, felt, leather or fabric belts to obtain desired finish. Straight or tapered cylindrical work with up to 1½-in. diameter can be accommodated. Only single handling of material is required, and many parts can be fed to machine automatically or manually. Safety-guarded machine is equipped with hinged door to facilitate rapid belt changes, 4-in. diameter openings for connection to exhaust system, single and double ball bearing roller platens for each polishing member, connecting trough and Uni-Pull drive for motor up to 3 hp. Made by **Production Machine Co.**, 310 Wells St., Greenfield, Mass.

For more details circle NED-8208 on enclosed inquiry slip

VERTICAL SPINDLE GRINDER
compact bench model for light work

Suitable for bench mounting, model No. 318-18 vertical spindle grinder is recommended for free-hand grinding of castings, forgings, stampings and plastics where little stock removal is required. All grinding is done in horizontal plane. Dressing of abrasive disk is easily accomplished by removing section of guard rail and swinging dresser arm across face of abrasive. Grinder is powered by 5-hp 1160-rpm three-phase 60-cycle motor that is totally enclosed and fan cooled. If facilities for bench mounting are lacking, grinder can be installed on stand of suitable height. Crossarm, pedestal, motor driven coolant pump, tank and piping for wet grinding are included in optional equipment. Made by **Charles H. Besly & Co.**, Beloit, Wis.

For more details circle NED-8209 on enclosed inquiry slip

DO YOU KNOW? Bicycles can be converted readily to three-speed drive by installing Triplspeed conversion unit in hub of present New Departure coaster brakes. This transmission enables rider to shift to low, medium or high gear ratio with finger-tip control mounted at handle bar grip. Made by New Departure Div., General Motors Corp., Dept. TP18, Bristol, Conn.

For more details circle NED-8210 on enclosed inquiry slip

DETECTO SCALES

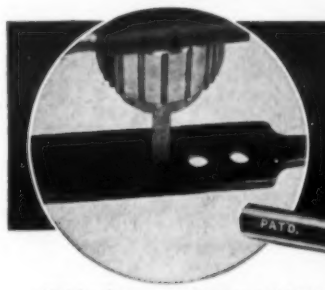
There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO ALUMINUM SPEED SCALE
For increased production at lower cost! One operator with one Speed Scale does as much as two operators with ordinary scales. Sturdy, precision built, super-accurate. Ends overweight losses.
Write for Literature

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
540NN PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

For more details circle NED-8212 on enclosed inquiry slip

Drill Hardened Steels without Annealing—



USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

For more details circle NED-8213 on enclosed inquiry slip

Put these advantages in your product with Marvinol®

In hundreds of processes . . . in thousands of end products, Marvinol is giving processors the characteristics that mean sales. Marvinol formulations are stable under heat, light and time . . . have high dimensional stability, greater low-temperature flexibility, outstanding resistance to tear, wear, oils and acids. Let us show you how to utilize Marvinol's time-saving advantages. All technical information developed in our modern laboratories is at your disposal since it is through you that Marvinol reaches the consumer.

Write today for the latest technical information. Dept. E-11, Naugatuck Chemical, Naugatuck, Conn.

Marvinol
Naugatuck Chemical
DIVISION OF U. S. RUBBER COMPANY

For more details circle NED-8206 on enclosed inquiry slip

CHAIN-O-FLEX CONVEYOR

- The flexible chain conveyor with all adjustable corners
- Sold as a packaged unit to be easily assembled by any mechanic

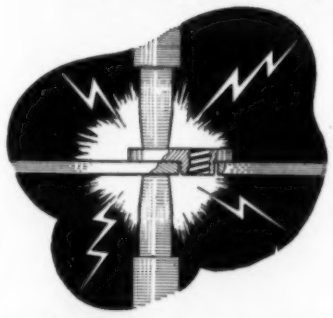
Write for 8 page illustrated catalog

INDUSTRIAL EQUIPMENT CO.
327 N. ADA ST. CHICAGO 7, ILL.

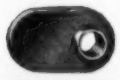
For more details circle NED-8207 on enclosed inquiry slip

OHIO WELD NUTS

For economical Spot Welding



Ohio SN Spotweld Nuts
No retapping required!
Thread sizes in stock, (Low Carbon Steel)
No. 6-32 to ⅜-24



Stainless steel sizes made to order in production quantities.

For dependable Projection Welding

Ohio WS Square Weld Nuts
Thread sizes in stock, (Low Carbon Steel)
No. 6-32 to ½-20

No retapping required!
No burning or discoloration!
For samples and welding information, send to

THE OHIO NUT & BOLT COMPANY
608 FRONT ST., BEREA, OHIO

For more details circle NED-8211 on enclosed inquiry slip

SMALL IN SIZE

Solenoid STAINLESS STEEL **Valves**

LARGE IN CAPACITY

THREE WAY-Two Position-Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed TWO WAY-Normally Open

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived controls for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

Write for Bulletin No. 491

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
135 Belden Ave., Norwalk, Conn.

For more details circle NED-8214 on enclosed inquiry slip

Diameters to 30 inches

SPIRATUBE . . . the new *flexible tubing* . . . works efficiently both ways . . . *blowing* . . . *exhausting.*

A zephyr or a gale . . . you put air where you need it with SPIRATUBE. And SPIRATUBE-R's neoprene rubber cushion rides with the punch of abrasive solids. *It's the new conveying tube of industry.*

Every advantage you want . . . bends at any point . . . no ridges inside to obstruct air passage . . . light and easy to carry . . . quick to connect . . . extra strong . . . safe . . . retracts for easy stowage.

Let's discuss your problems . . . no obligation. New Engineering Catalog available. Send for your copy today.

Box 149F

Send for your copy today.

5-K-4

FLEXIBLE TUBING CORPORATION

SPIRATUBE

BRANFORD, CONNECTICUT, U. S. A.

For more details circle NED-8215 on enclosed inquiry slip

THERE'S NO BETTER WAY TO PACKAGE DELICATE OR PRECISION PARTS than in Clearsite PLASTIC SELLING CONTAINERS

Drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others can be packaged for perfect visibility and the utmost in protection in the container that's featherlight (1/4 the weight of glass) • shatterproof • flexible or rigid • permanently printed • clear or opaque in all colors.

Write for your FREE copy of the new, fully illustrated brochure that points up the many uses and advantages of Clearsite Plastic SELLING Containers.

CLEARSITE is made only by

CELLUPLASTIC CORPORATION

58 Avenue L • Newark 5, New Jersey

America's #1 Source for Plastic Containers
Established 1919

Milwaukee • Los Angeles • Detroit • New Haven • Cleveland • Denver • Minneapolis • Cincinnati • Atlanta • Houston • Chicago • Jacksonville • Ft. Worth • St. Louis • San Francisco • Jackson • Richmond • Phoenix • Seattle • Portland • Louisville • Montreal • Toronto

For more details circle NED-8216 on enclosed inquiry slip

TRUCK-MOUNTED YARD CRANE
12½-ton model has 6.4-rpm swing

Capable of traveling at truck speeds, model 40 truck-mounted yard crane is powered by standard six-cylinder gasoline engine that develops 102 hp at 3200 rpm. Wide-flanged deep-section I-beam frames provide solid crane base, and equalizing beam-type suspension used in conjunction with locking third differential permits heavy off-the-road work. Auxiliary transmission provides ten forward and two reverse speeds, and unit lifts, booms and swings either simultaneously or independently.

Upper works of machine are enclosed in weatherproof inside-bolted cab which permits inside access to all deck machinery. Standard power unit for upper works is 62-hp six-cylinder gasoline engine. Made by **American Steel Dredge Co.**, Wayne Crane Div., 2512 Taylor St., Ft. Wayne 1, Ind.

For more details circle NED-8217 on enclosed inquiry slip

PACKAGING MACHINE
weighs, fills and closes bags

Free-flowing products can be packaged in either cotton or paper bags in weight range of 50 to 140 lb by this Gravity Packer. Unit consists essentially of net weighing scale, pneumatically-operated oscillating mechanism which settles contents of bag, dual-head bag closing unit which will sew either multiwall open-mouth paper or textile bags and conveyor. Latter is composed of four V-belts concavely arranged so filled bags will stand upright as they pass from packing spout to sewing head. Unit can be operated by one man at rate of 5 to 7 bags per minute, while up to 12 bags per minute can be packed by two-man crew. Weights are accurate within 2-oz. Made by **Bemis Bro. Bag Co.**, P. O. Box 86, St. Louis 2, Mo.

For more details circle NED-8218 on enclosed inquiry slip

DO YOU KNOW? Utilizing paste type ink, British made Gestetner stencil duplicating machine is reported to reproduce printed matter which could not be reproduced on usual office duplicating machines. Machine can be used for color printing and will reproduce illustrations from photographically prepared stencils. Distributed by Duplicator Corp., 50 McLean Ave., Yonkers 5, N. Y.

For more details circle NED-8219 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO LAMP CHANGERS

Easy Does It!

Practical for Ceilings, Side Walls, Electric Signs, etc.

Head adjusts to any angle.

Designed to remove and replace lamp bulbs in high and out of way places . . . Works like human hands on the end of a pole. Practical, time saving, prevents injuries. Handles lamps up to 500 watt; pole lengths 6', 12' and 18'.

Write for Bulletin L-1150

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY

2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-8220 on enclosed inquiry slip

At your Service ON WIRE AND METAL ASSEMBLIES

CAMBRIDGE offers the most modern fabricating facilities plus years of engineering experience

. . . to make any wire and sheet metal tray, rack, basket, fixture, crate, screen or other fabrication you need to reduce costs and speed-up material handling processing and treating. The fact that Cambridge is equipped to perform every step of the designing and manufacturing assures you of the famous Cambridge quality and service on all items.

Your Cambridge field engineer can recommend the right design and construction for washing, spraying, dipping and similar operations.

Or write direct for information on the complete Cambridge facilities. Send for this FREE illustrated folder describing Cambridge wire baskets and specialties.

Cambridge Wire Cloth Co.

Wire cloth in rolls. Any metal or alloy, mesh or weave.

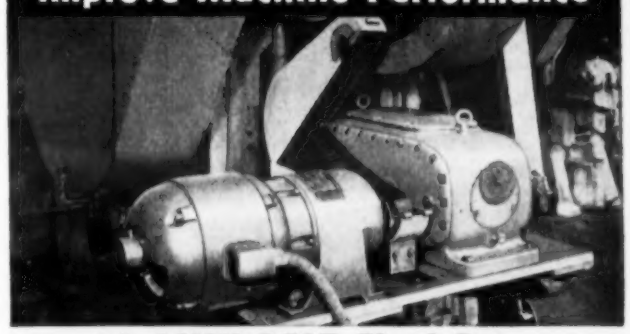
DEPARTMENT C
CAMBRIDGE 11, MD.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

See "Baskets, Wire" in your Classified Telephone Directory

For more details circle NED-8221 on enclosed inquiry slip

Improve Machine Performance



with LINK-BELT Fluid Drives

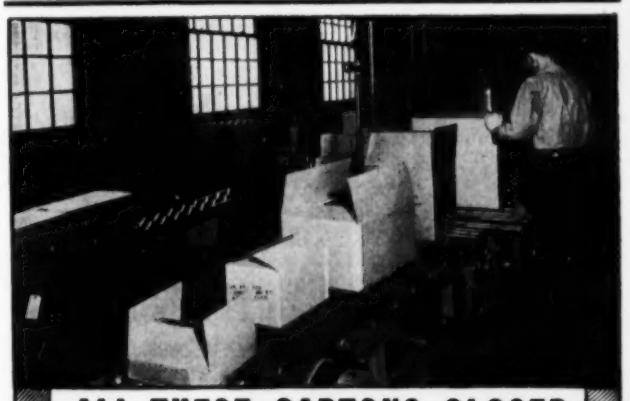
- They're precision engineered for shockless, efficient and economical power transmission.
- They allow motor to gain speed smoothly and rapidly until maximum torque is attained.
- They permit use of smaller motor than otherwise required, as it is selected on the basis of normal running horsepower.
- They protect motors against burn-outs and driven machinery against shock loads and torsional vibration.
- They're simple and compact with virtually no upkeep or adjustment necessary
- Available in five types: Electrofluid Drive, Electrofluid Gearmotor, Fluid Drive, Fluid Gear Drive and Fluid Coupling Drive.

LINK-BELT COMPANY 12,152

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Johannesburg. Offices, Factory Branch Stores and Distributors in Principal Cities.

SEND NOW for Book No. 2385

For more details circle NED-8222 on enclosed inquiry slip



ALL THESE CARTONS CLOSED IN LESS THAN 1 MINUTE

- If variable carton sizes are used in your shipping, you are losing money every day you do not have an International Retractable Anvil Staple Machine—saves time, automatically adjusts for size variations; one operator closes 400 cartons per hour—saves space, cartons remain flat until ready for use—saves damage claims, meets Consolidated Freight and Postal Regulations.

Your inquiry will result in one of our distributors showing you exactly how one of our more than thirty models will save you money and give you a neater and stronger carton closure.

INTERNATIONAL STAPLE & MACHINE CO.

HAVERTOWN 2, PENNSYLVANIA

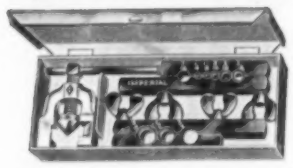
EST. 1938

For more details circle NED-8223 on enclosed inquiry slip

WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!

60% SAVINGS ON SOME ITEMS

OVER 9,000 ITEMS including



ELECTRIC MOTOR PARTS
REFRIGERANTS & FITTINGS
DEEP FREEZER SUPPLIES
DEHYDRATORS
COPPER TUBING
VALVES
CONTROLS
HIGH SIDES
GAUGES
TOOLS

Wide Range FLARING Tool

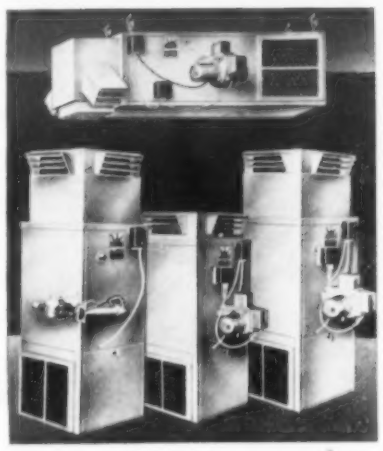
Flares 9 different sizes. One bar flares 1/8", 3/16", 1/4", 5/16", 3/8" and 7/16" OD sizes and the second bar flares 1/2", 5/8" and 3/4". Yoke has "slip on" feature with the inside edges notched to hold in place. Self centering No. 13564B. Complete Wide Range Flaring Tool for 9 different sizes, in metal case.

WRITE TODAY TO

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

▲ For more details circle NED-8226 on enclosed inquiry slip ▲

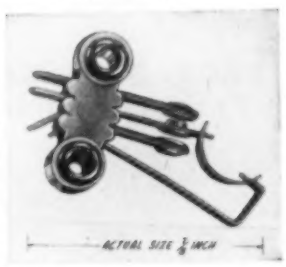
INDUSTRIAL HEATERS
are self-contained and direct-fired



Available in 100,000 and 200,000 Btu per hour outputs for either gas or oil firing, Thermopac industrial heaters are supplied with thermostatic control and designed for completely automatic operation. They can be fired with either atmospheric gas burners or pressure atomizing type oil burners and can be floor set, wall hung or horizontally suspended. Made by **Prat-Daniel Corp.**, Thermobloc Div., 66 Water St., East Port Chester, Conn.

▲ For more details circle NED-8228 on enclosed inquiry slip ▲

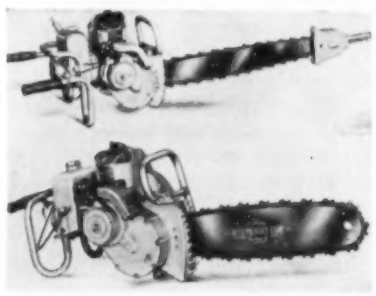
SNAP-ACTION SWITCH
has 3-amp 125-v ac capacity



Particularly applicable for condensed timing and sequence operations, model M-OM midget snap-action switch has rated capacity life of 500,000 actuations. Open-blade switch utilizes rolling spring principle. Contact arms and blades are held between molded Nylon or Melamine side members secured by eyelets capable of taking No. 1 mounting screw. Contact points are pure silver. Made by **Acro Mfg. Co.**, Acro Switch Div., Columbus 16, O.

▲ For more details circle NED-8229 on enclosed inquiry slip ▲

PORTABLE CHAIN SAWS
available for one and two-man usage



Gasoline-driven 5-hp model 50 portable chain saws can be obtained with cutting capacities ranging from 20 to 36 in. for one-man operation and in 24, 30, 36, 48 and 60-in. capacities in two-man models. Two-man saw complete with 30-in. guide bar, chain and idler-type tailstock weighs 55 lb, and one-man unit equipped with 20-in. open end bar and chain weighs 45 lb. Handlebars and float type carburetor remain in upright position for all operations as engine and cutting attachment swivel 360 degrees and lock at any angle for notching, felling or underbucking cuts. Automatic clutch stops chain when engine is idling and provides overload protection. Made by **Reed-Prentice Corp.**, Dept. R-7, 677 Cambridge St., Worcester 4, Mass.

▲ For more details circle NED-8230 on enclosed inquiry slip ▲

HAVE YOU EVER BOUGHT YOUR WIFE A MINK COAT AT RABBIT PRICES?

SAVE UP TO 85% IN WAR SURPLUS

We've gone NUTS!!

Just Purchased 180,000 lbs. of the FINEST PRECISION Made ELASTIC & FIBER LOCK NUTS!! All are NEW!!

Here's your chance to "STEAL." Aircraft Quality STOP NUTS at less than the cost of common commercial hex nuts. They're ALL NEW Cad plated Steel and a large quantity are even pre-tapped for easier wrenching. ELASTIC or FIBER LOCK SEAL gives a Positive, Shake-proof, Vibration & Rust Resistant fastener. No lock washer necessary. One Operation does the job. Just run on the nut. Ideal for use in all types of metal fabrication, assembly construction etc.,

ALL NEW! AND LOOK AT THESE PRICES for ELASTIC or FIBRE LOCK STOP NUTS

Prices per 100 in these quantities - Special Discount for larger quantities

	100	1000	10,000	25,000	50,000	100,000	5,000,000
640	$.49	$.25	$.21	$.19	$.17	$.15	[illegible]
832,836	.59	.31	.28	.25	.23	.21	[illegible]
1032	.59	.31	.28	.25	.23	.21	[illegible]
1/4-28 FL	.63	.39	.36	.33	.30	.27	[illegible]
1/4-28 PT	.63	.39	.36	.33	.30	.27	[illegible]
5/16-24PT	.84	.64	.61	.58	.56	.54	[illegible]
3/8-24PT	.94	.74	.71	.68	.66	.64	[illegible]

Note. FL means Fiber Lock (nutra-tapped.) PT means Pre-tapped, ESSNA

ARO PISTOL 22.50 AIR DRILL or AIR MOTOR with 1/4" Jacobs chuck.

AIR TOOLS
10,000 in various makes, sizes & types. Cleco, Aro, Ingersoll Rand, Chicago Pneumatic, Buckeye E2, 3X, 2X, OY.
$55.00 VALUE Pistol or Gooseneck
NO.181 PISTOL
Only $8.95

NEW BEARINGS
These are the Finest, Precision, AIRCRAFT BEARINGS!! We have more than 168 types and sizes in TREMENDOUS QUANTITIES!!! Needle, Roller, Recessed, Rod End, Shielded, Unshielded, Self-aligning, etc. Made by some of the WORLD'S LEADING MANUFACTURERS OF BEARINGS... Yours at a FRACTION of COMMERCIAL PRICES. Write for complete list, Adapt to your use!

PALLEY SPECIALS on HYDRAULIC PUMPS & CYLINDERS

P-1 PESCO PUMP - Positive displacement gear type. Capacity. 1 gal. per minute, at 1500 RPM at 1500 PSI. Operating speed: 3700 RPM intermittent max. 4500 RPM. Rotation: either direction with slight adjustments. $9.49

NEW HYDRAULIC CYLINDER
NEW 22.50
Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hyd. pumps. Will produce up to 40,000 lb. thrust with 3,000 PSI. CAN ALSO BE OPERATED ON LOW PRESSURE AIR SYSTEMS. 4" bore, 10" stroke, 30½" length. Ideal for Road-Farm-Shop Machinery.

BENDIX HAND PUMP
Provides instantaneous power to operate Hydraulic Systems. Delivers 3000 to 5000 PSI. Has built-in reservoir and Pressure Relief Valve. Can be adapted to 100's of uses in simple hydraulic systems. NEW $15.95 Used - Good Condition 11.95

P-4 VICKERS ANGLE PUMP
Positive displacement type, angle piston. Displaces .507 cu. in. per revolution. Has capacity of 6 gal. per min. at 3000 RPM at 1500 PSI. Pressure limit is 1500 PSI continuous, 1875 for 15 sec. Operating speed of 3750 RPM, intermittent maximum 4500 RPM. Rotates to the right only. Motor $14.49

Order from this Ad. All sales final. All Prices F.O.B., Glendale. Pay by M.O. or Check. P.O.'s Accepted. from D.&B. firms. ½ deposit with C.O.D's

PALLEY SUPPLY CO. DEPT. NED-11 6321 SAN FERNANDO RD. GLENDALE 1, CALIF.

NEW 1950 CATALOG
72 pages of Machine Tools (taps, drills, dies reamers, etc.) Hydraulic Cylinders & Valves, Air Tools, Bearings. Write Today for your Copy.

▲ For more details circle NED-8232 on enclosed inquiry slip ▲

TRY

TUMB-L-MATIC
PROCESSES

TO CUT FINISHING COSTS *automatically!*

Good automatic finishing on all metals, including die-castings, stampings and other types of pieces, starts with the right combination of tumbling equipment, compounds, supplies and techniques – the scientific combination you get with TUMB-L-MATIC PROCESSES.

In applying these Processes to your work, TUMB-L-MATIC gears years of experience in finishing a wide range of products to exclusive new developments... scientifically determines what combination will definitely cut costs in your deburring, cutting, smoothing, polishing or preparation of metal surfaces for plating.

Try It Before You Buy It!

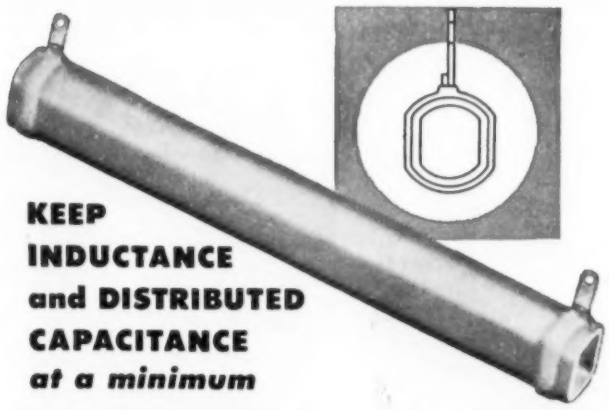
Our experienced engineers analyze a sample (or detailed description) of your product, recommend an individualized, low-cost TUMB-L-MATIC PROCESS complete with production data which enables you to figure finishing costs before you invest a cent. Write and tell us about your product—or better still, send a sample.

AND REMEMBER, TUMB-L-MATIC makes *the complete line* of tumbling and burnishing equipment, compounds and supplies.

5668

Lupomatic INDUSTRIES, INC.
4510 Bullard Avenue, New York 66, New York

▲ For more details circle NED-8227 on enclosed inquiry slip ▲



KEEP INDUCTANCE and DISTRIBUTED CAPACITANCE *at a minimum*

Putting the opposed windings on a *flatted* core is a Ward Leonard *exclusive* in non-inductive resistors.

The flats help make sure that the crossings of the Ayrton-Perry winding are exactly 180° apart—thus reducing inductance and distributed capacitance to an absolute minimum.

For high watt rating in a given size unit . . . low difference in potential between adjacent turns . . . absence of undesirable high capacitance—specify Ward Leonard non-inductive resistors.

Write for catalog. WARD LEONARD ELECTRIC CO., 51 South Street, Mt. Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

▲ For more details circle NED-8231 on enclosed inquiry slip ▲

we're asking for it!

Go ahead—hit us with your problem!

Cocky? Not at all. Just confident that Masonite Hardboards can help solve your product and production problems—as they are doing on many jobs . . . in all types of industries.

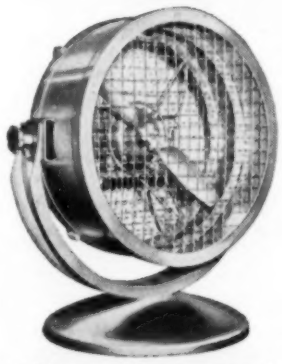
Masonite Hardboards—durable, easy-to-work panels of wood made better—offer 28 distinct advantages. For example, they can be sawed, bent, routed and die-cut, are equally strong in two directions, take almost any finish. There are 39 different types and thicknesses to meet your specific needs.

Our engineers welcome the opportunity to help you. For complete technical information, write to . . .

MASONITE® CORPORATION
111 W. Washington Street, Chicago 2, Illinois

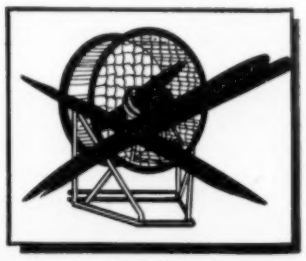
▲ For more details circle NED-8233 on enclosed inquiry slip ▲

Industrial Fans no longer *"ugly ducklings"*



No longer need you overlook the slipshod paint jobs, primitive design and other "backwoods" details which have characterized industrial fans and blowers. For Hartzell has brought such equipment out of the alley . . . modernized its design . . . cleaned it up . . . given it a "style-show" appearance. And the resultant pride of production makes Hartzell fans and blowers better—not only in appearance but also in performance. Uniformly good welds, *really* protective paint jobs, genuine aerodynamic designs. Quality you can *see*. Proof? Just send for our new catalog No. 20.

modern ◆ ◆ **out-moded**



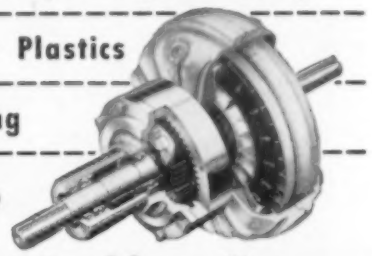
HARTZELL PROPELLER FAN CO.
DIV. OF CASTLE HILLS CORP.
DEPT. G PIQUA, OHIO
ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-8234 on enclosed inquiry slip ▲

Textiles • Printing • Paper-Making •

Wire-Making • Plastics

Chemical Mixing



Solve Your Winding Problems Forever

The revolutionary new Twin Disc HYDRO-WYND combines a hydraulic coupling with a planetary gearset to compensate for axle speed variations in winding operations. This unit maintains a *predetermined lineal speed and tension,* constantly and automatically, *throughout the entire winding cycle* with no manual or other adjustments.

All jerkiness is eliminated in the winding cycle. The HYDRO-WYND permits the prime mover to accelerate to the right amount of working torque. As axle torque requirements vary, the planetary gearset and the hydraulic coupling react against each other to produce an output torque which matches predetermined requirements for constant tension and constant lineal speed.

Available for a wide variety of tension and speed requirements on all types of jobs up to 7.5 hp. Write today for complete details—and solve your winding problems forever.

Clutches & Hydraulic Drives

TWIN DISC CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

▲ For more details circle **NED-8235** on enclosed inquiry slip ▲

NEW NEW NEW

ADHESIVE BACKED, CHROMATE

Impregnated Felt

SEALING TAPES & GASKETINGS

NEW,

Chrome Lock

PREVENTS CORROSION

SEALS JOINTS AGAINST

MOISTURE, AIR AND DUST

Chrome Lock's low-cost sealing tapes and cut gaskets are ideally suited to all types of products and surfaces. Its specially impregnated felt base assures a positive seal and a lifetime of protection from all elements . . . Read these features:

★ **PRESSURE SENSITIVE ADHESIVE BACK:** Makes overhead and all other applications extra simple. No mess—no clean-up—saves time!

★ **ANTI-WICKING:** Non-soluble in water or saline solutions in normal pressure applications.

★ **PREVENTS CORROSION:** Chrome Lock's resins permanently hold the metal in a passive state.

★ **PREVENTS ELECTROLYSIS:** Inhibits electrolytic action between dissimilar metals.

★ **LIFETIME PLIABILITY:** Chrome Lock resists permanent distortion. Does not embrittle.

★ **NATIONWIDE SERVICE:** Chrome Lock *engineers* are available in all major cities.

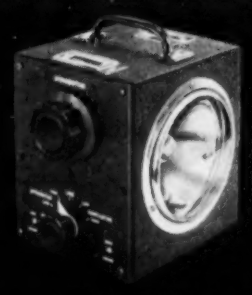
Write on your company letterhead for **FREE** Engineering Folder No. 1000 **Today!**

A PRODUCT OF
PRODUCTS RESEARCH COMPANY

SPRING PACKING CORPORATION
332 SOUTH MICHIGAN AVENUE . . . CHICAGO 4, ILLINOIS

▲ For more details circle **NED-8236** on enclosed inquiry slip ▲

With This Small



Portable STROBOSCOPE

ANYONE can make measurements of speed between 600 and 100,000 rpm! Not only is the STROBOTAC® the ideal means for measuring the speed of any reciprocating or revolving cyclic motion . . . since it requires no electrical or mechanical connection to the machinery being measured . . . but also it is a very simple instrument for looking at machinery in s-l-o-w motion . . . to find misadjustments and defects impossible to see when the equipment is not in motion.

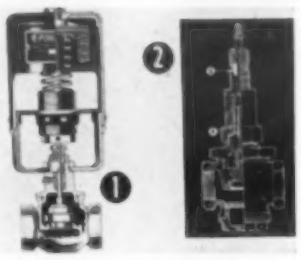
The standard Type 631-B STROBOTAC is priced at $125; a special model, Type 631-BL (with an *additional* extra-low speed range, uncalibrated, between 60 and 1440 rpm) is priced at $155.

For Complete Data WRITE FOR THE STROBOTAC BULLETIN

GENERAL RADIO CO.
Cambridge 39, Massachusetts
NEW YORK CHICAGO LOS ANGELES

▲ For more details circle **NED-8237** on enclosed inquiry slip ▲

AIR-OPERATED CONTROL VALVE
regulates steam, water or oil flow



Suitable for many control applications where pressure differential does not exceed 75 psi, Metaflow air operated control valve can be obtained in sizes of ½ through 2 in. Standard valve is shown as No. 1 in illustration and packless valve body type as No. 2. Packless type prevents leakage of inflammable or harmful liquids or gases and provides vacuum protection. It is suitable for use with Freon, oil, gasoline, noncorrosive gases, hot or cold water and low pressure steam. Brass adjusting screw has rustproof steel spring that provides 15-lb adjustment range to give proper sequence operation where required. Made by **Powers Regulator Co.,** 2740-A Greenview Ave., Chicago 14, Ill.

▲ For more details circle **NED-8238** on enclosed inquiry slip ▲

SIX-INCH UTILITY GRINDER
available in ¼ and 1/3-hp sizes

Designed with extra wide clearance between wheels and motor, No. 600 series utility grinder permits grinding of large and odd-shaped pieces. Long pieces can be moved across front of motor frame because it is smaller in diameter than grinding wheel. Features include capacitor-start capacitor-run induction motor, sealed-for-life ball bearings and tool rests that can be tilted for angle grinding. Made by **Baldor Electric Co.,** 4376 Duncan Ave., St. Louis 10, Mo.

▲ For more details circle **NED-8239** on enclosed inquiry slip ▲

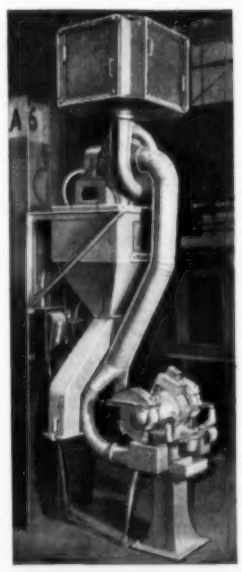
ELECTRIC FOLDING MACHINE
can deliver 19,000 pieces per hour

Capable of performing eight basic folds from radio dial type of setting, model FM electric folding machine can handle wide variety of paper stocks, sizes and weights. It will put two parallel folds in average sheet at rate of 10,000 per hour, feeding and stacking from same end of machine. Duplicating, bond, ledger, book, coated and uncoated papers in weights from 16 to 24-lb substance and in sizes from 3 x 3½ in. to 11 x 24 in. can be accommodated. Measuring 36 x 18½ x 20½ in., machine can be conveniently stored when not in use. Made by **Pitney-Bowes, Inc.,** 1946 Pacific St., Stamford, Conn.

▲ For more details circle **NED-8240** on enclosed inquiry slip ▲

There's always room for a

ROTO-CLONE



Modern Dust Control Equipment Designed to Fit the Space and the Job

• This two wheel grinding stand, although placed in a crowded center-of-plant location, is serviced by a wall mounted Type D Roto-Clone. Dust-laden air is removed at the hoods, conveyed to the Roto-Clone where the dust is separated and delivered into the hopper and the air is passed through a final aftercleaner and recirculated to the workroom. A complete, compact operation utilizing unused wall space and designed for disposal of collected dust at floor level. Bulletin 270-A describes this as well as the complete line of Roto-Clone Dust Control Equipment. Write for it today.

AMERICAN AIR FILTER CO., INC.
391 Central Ave., Louisville 8, Ky.

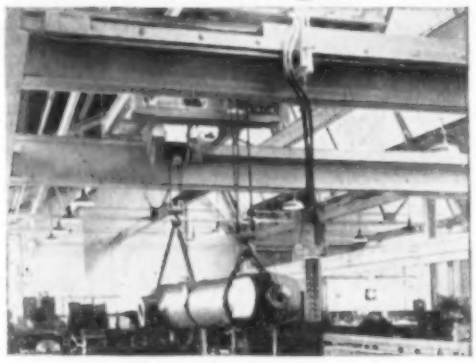
In Canada:
Darling Bros., Ltd., Montreal, P. Q.

AAF

ROTO-CLONE DUST CONTROL

▲ For more details circle **NED-8241** on enclosed inquiry slip ▲

B-36 shock strut forging
makes two point landing with R & M flight control



At Cleveland Pneumatic Tool Co., one man "flies" 8400-lb forgings into a lathe. R & M's 10-button "flight control" flexibility gives fraction-of-an-inch control of two hoists and a 4-motor double girder crane. If you want to handle your products faster—for less money—call in your nearby R & M representative. No obligation. Write for Bulletin 110 ND.

TAKE IT UP WITH

ROBBINS & MYERS INC.

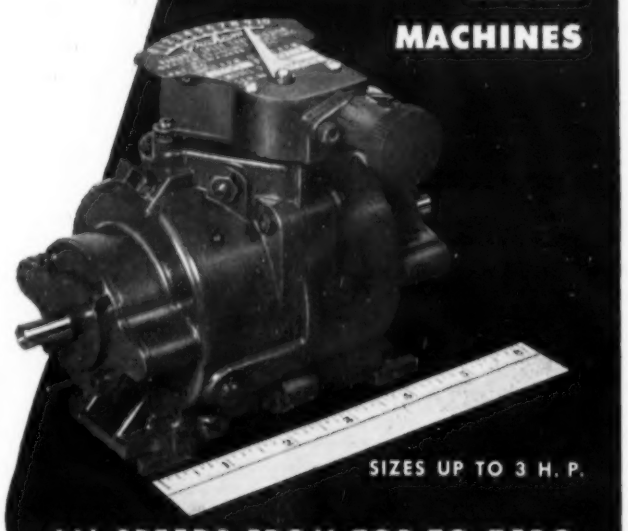
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

▲ For more details circle **NED-8242** on enclosed inquiry slip ▲

Graham

THE FINEST VARIABLE SPEED DRIVE MADE

THE MODEL 10
A MIDGET DESIGNED SPECIFICALLY FOR SMALL MACHINES



SIZES UP TO 3 H. P.

ALL SPEEDS FROM TOP TO ZERO

"ON THE MARK CONTROL"

Check the dimensions! The Model 10 is specifically designed for such small machines as pumps, feeds and feeders, business machines, instruments, and recorders, to list a few.

MODEL 10 SPECIFICATIONS:

H. P. OUTPUT—1/15 H.P.
INPUT SPEED—1800 R.P.M. standard—other as required
OUTPUT SPEED—from ⅔ input speed to zero and reverse
AVG. TORQUE—50 in. oz.
CONTROL—Finger-tip lever—or micrometer as shown
LUBRICATION—sealed-in oil or grease

PROMPT DELIVERY WILL BE MADE UPON RECEIPT ORDER FOR A MODEL 10.
Mail the Coupon

PRICES START AT $39.75 f. o. b. Milwaukee
to O. E. M. buyers less quantity discount

GRAHAM TRANSMISSIONS, INC.
Dept. NED, 3754 N. Holton St.
Milwaukee 12, Wisconsin

Send latest catalog *Graham Variable Speed Drives* up to 3 H.P.

Company.....

Name.....*Title*.....

Address.....

City.....*Zone*.....*State*.....

▲ For more details circle **NED-8243** on enclosed inquiry slip ▲

the "holes in our heads" are full

. . . OF COST-CUTTING IDEAS

Yes, the "holes" in our engineers' heads are full of ideas to give you newer, faster, lower cost methods of boring . . . methods that save you time and money. If your job needs a special bar or special cutter, we'll design and make it. Chances are a standard Madison cutter in the right Madison bar will give you greater production economy. Let Madison's experienced boring specialists . . . the "men with holes in their heads" . . . help you cut your boring costs. Submit your problems for recommendations by our problem solving tool design department. Of course there's no obligation.

Write for the information filled Madison Catalog: It is yours for the asking.

MADISON MANUFACTURING COMPANY
Dept. ED Muskegon, Michigan

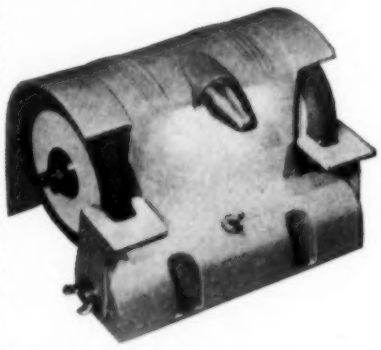
For more details circle NED-8244 on enclosed inquiry slip

LIGHTWEIGHT GASOLINE ENGINE is 2-hp vertical shaft type

Adaptable for applications requiring vertical shaft drives, model 360 two-cylinder gasoline engine is of aluminum construction. It features troublefree 'Mist-Type' lubrication and simplicity in mounting. Several types of adapter mounting flanges are available: one incorporating third bearing arrangement, another with mounting bolt holes on 8-in. circle and NEMA type which provides for interchangeability with direct-connected electric motors of frame sizes 43 to 49. Made by **Power Products Corp.**, N. River St., Grafton, Wis.

For more details circle NED-8247 on enclosed inquiry slip

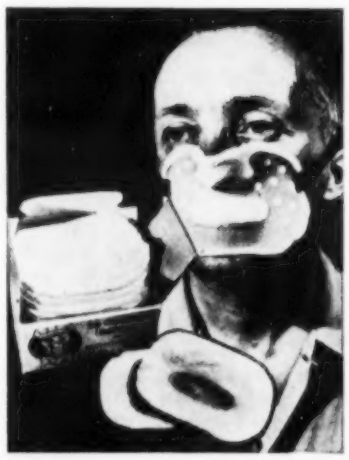
SMALL BENCH GRINDER powered by 1/12-hp 3500-rpm motor



Featuring improved design, work light and adjustable post rests, model No. 950 bench grinder is suitable for many grinding applications. Balanced 4½-in. diameter wheels assure smooth running conditions and uniform cutting action. Grinder is designed to operate on 115-v 50/60-cycle current and lists for $15.95. Made by **Fairchild Industries, Inc.**, 110-N Main St., Burlington, Vt.

For more details circle NED-8248 on enclosed inquiry slip

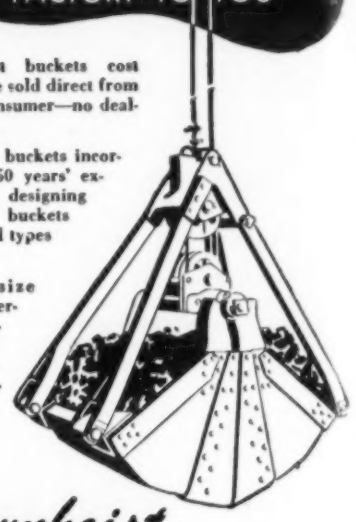
PROTECTIVE MASK uses replaceable filters



Consisting of aluminum shield held in position by adjustable elastic head band and replaceable laminated filters of extra thickness, No. 48A G-S protective mask protects throat, nose and bronchial tubes from larger particles of nontoxic dusts. Mask weighs less than ½ oz and is recommended for wear in foundries, cement plants, machine shops and mills. It is not effective where fine silica, lead, arsenic and other toxic dusts are present. Minimum shipment of four masks and 50 refills lists for $2.20. Made by **General Scientific Equipment Co.**, 2701 W. Huntingdon St., Philadelphia 32, Pa.

For more details circle NED-8249 on enclosed inquiry slip

Buy a Better Bucket
FOR LESS MONEY
Buy Brownhoist
DIRECT FROM FACTORY TO YOU



- Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.
- Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.
- Standard size rope-reeve, power-wheel and link-type Brownhoist buckets are available for immediate shipment.

Brownhoist
Write for illustrated catalog of Brownhoist Buckets
INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

For more details circle NED-8251 on enclosed inquiry slip

MICROCASTINGS
Cut Cost 60%
ELIMINATE POROSITY • MACHINING

The part shown at left was required to be porosity-free and of stainless steel. Producing this part as a sand casting resulted in a considerable loss due to porosity. Machining the part from bar stock proved too costly.

Substantial Savings with Precision Casting

This same part produced by the Microcast Process of precision casting was structurally sound, dimensionally uniform, and to such close tolerances that virtually no machining was required. The problem of porosity was also eliminated. The savings effected amounted to 60% over the previous method of manufacture.

WRITE FOR FREE BOOKLET

Comprehensive 16-page booklet gives many applications together with specifications and a complete step-by-step explanation of the process itself.

MICROCAST T.M. REG. U.S. PAT. OFF.

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.
224 East 39th Street—New York 16, N. Y.
715 East 69th Place—Chicago 37, Illinois

For more details circle NED-8245 on enclosed inquiry slip

The "TOTEMASTER"
POWERED BY A 20 H.P., 4 CYLINDER GAS ENGINE
Indoors or out — this rugged ONE-TON Toter scoots around with loads up to capacity and at speeds up to 20 M.P.H.

- Crosley 4 cylinder engine — 20 HP, CI block — 5 main bearings.
- High compression engine — Ratio 7.8:1. More complete combustion means reduced fuel and less fumes.
- Electric starting. No cranking, therefore operator will stop engine while loading truck. Saves fuel and reduces fumes.
- 3 speeds forward — 1 reverse. Saves strain on engine, increases grade performance with heavy loads. Lowers maintenance cost.
- Two wheel drive — differential. More effective traction. Less wear and tear.
- Water cooled engine — quiet and cooler.
- Hydraulic brakes — airplane type.
- Double handle grip provides one or two hand steering
- When operator leaves seat, parking brake is mechanically applied.

MULTIPLY MANPOWER LEWIS-SHEPARD
The "MASTER" Line ®

21 Sq. Ft. of Loading Space, Draw Bar Pull: 1200 lbs.
WRITE for "TOTEMASTER" Bulletin #30

REPRESENTATIVES IN PRINCIPAL CITIES

LEWIS-SHEPARD PRODUCTS INC.
302 WALNUT STREET, WATERTOWN 72, MASS.
Midwest Plant: CRAWFORDSVILLE, INDIANA

For more details circle NED-8252 on enclosed inquiry slip

SEND FOR **ALLIED'S** **FREE**
NEW 212-PAGE
1951 CATALOG

ELECTRONIC SUPPLIES for INDUSTRY

Equipment for Research, Development, Maintenance and Production

Complete, Expert Industrial Service

Send today for ALLIED'S new 1951 Buying Guide to *everything* in electronics for industrial application. Rely on ALLIED for the world's largest stocks of parts, tubes, test instruments, tools, amplifiers, intercom and paging systems—complete quality lines of electronic supplies ready for *shipment from stock*. ALLIED'S expert Industrial Division saves you time, effort and money. Send today for your FREE copy of the 1951 ALLIED Catalog.

EVERYTHING IN ELECTRONICS FROM *ONE* SOURCE

ALLIED RADIO
Send for FREE CATALOG

833 W. Jackson Blvd., Dept. 37-L-O, Chicago 7, Ill.
☐ Send FREE 1951 ALLIED Catalog.
Name.....
Address.....
City.....*Zone*.....*State*.....

For more details circle NED-8246 on enclosed inquiry slip

LEKTROMESH
THE UNIQUE SOLID-METAL SCREEN
Distinguished for its

★STABILITY in use
★UNIFORMITY of Hole Size
★WORKABILITY in Manufacturing Processes
★DIVERSITY of Applications to Research and Production

Electro-deposited in pure copper, pure nickel, or nickel-on-copper — in regular commercial production with counts from 25 to 400 per inch — in lengths up to 100 feet and widths up to 36 inches — with tolerances on hole size and thickness suitable for the most critical uses — LEKTROMESH is ideal for precise filtration, for fabricated products such as fuel filters and electronic shields, even for distinctive decorative screens with an integral pattern. For full details let us send our Bulletin on LEKTROMESH. Address Department 11.

THE C. O. **JELLIFF** MFG. CORP.
DIPPING BASKETS
LEKTROMESH
RESISTANCE WIRE
WIRE MESH PARTS
WIRE CLOTH
STRAINERS • FILTERS
WIRE PRODUCTS SINCE 1860
SOUTHPORT CONNECTICUT

For more details circle NED-8250 on enclosed inquiry slip

SILVER KING
The MODERN STROKE COUNTER

MODERN
INDUSTRIAL COUNTERS

Rugged as an Army tank. Work smooth as a watch.
Precision built — for tremendous wear life. Tamper-proof Reset.
Modern design—streamlined appearance —you can see the quality.
Used by the thousands in Auto and Aircraft Factories, Metal Working, Die Casting, Plastic Molding and Stamping Plants.
See a Silver King and compare. Order sample on approval today.

Send for Catalog
describing
Stroke and Revolution Counters
Coil Winding Counters
Electric Counters
Electric Batch Counters
Actuating Switches

Production Instrument Company
700-12 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

For more details circle NED-8253 on enclosed inquiry slip

HOW CAN YOU USE this GAST 3 h.p. ROTARY AIR MOTOR?

This style for flange mounting.

See our CATALOG in SWEET'S FILE for PRODUCT DESIGNERS

"AIR MAY BE YOUR ANSWER!"

On your present products — or those now being designed — you may gain outstanding advantages by using this *larger* GAST No. 8 Air Motor.

Built on the famous GAST rotary-vane principle, the No. 8 delivers variable-speed power with simple valve control. It's explosion proof . . . it can't burn out from overloads . . . and it delivers a smooth 3 h.p. at 1500 r.p.m. *with a weight of only 25 pounds!*

Investigate this unique, compact motor now — it may provide unusual advantages for your application.

Write for new bulletin AM-8 and complete specifications — today!

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS (TO ONE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-8254 on enclosed inquiry slip

THE BRUTE

ARO HEAVY DUTY VERTICAL GRINDER

- **IT'S BIG** . . . yet weighs only 11 lbs.!
- **BIG POWER** . . . try it . . . find out for yourself!
- **BIG TIME PERFORMANCE** . . . easy to handle . . . safety throttle.
- **TRY IT** . . . contact your ARO distributor for an on-the-job demonstration.

The Aro Equipment Corporation, Bryan, Ohio
Aro of Canada, Ltd., Toronto, Ontario

ARO AIR TOOLS
Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS. . . GREASE FITTINGS

For more details circle NED-8255 on enclosed inquiry slip

New CONGRESS LUBRALIFE PILLOW BLOCKS

Permanently Lubricated Self-Aligning

Throw away that dirty, messy oil can! Congress Pillow Blocks never require oiling, yet there is no oil drip. They are rust free, quiet, trouble free, easily installed.

- Perfect Alignment
- Rugged Construction
- Heavy Load Capacity
- NO OILING!

Oil resisting rubber grommets equipped with static dissipator, to prevent transmission of any vibration of the rotating parts, are also available.

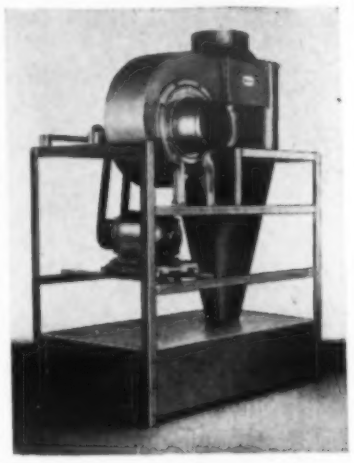
The test tube at the right shows the *actual* amount of oil contained in a 5/8" bore Lubralife bearing.

Write for Literature.

CONGRESS DIAMOND BORED DRIVES
3750 E. OUTER DRIVE, DETROIT 34, MICH.

For more details circle NED-8256 on enclosed inquiry slip

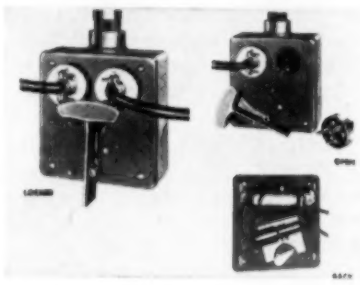
PACKAGED DUST COLLECTOR has capacity of 10,050 cfm



Capable of handling all types of industrial dusts such as those created by buffing, grinding, woodworking, chemical processing and polishing, model 90N50 Dustkop dust collector removes dust from air stream and discharges cleaned air and toxic fumes out-of-doors. Air handling capacity of 10,050 cfm is developed by 15-hp motor driving paddle-wheel fan. Static suction of 4 in. is developed on 15-in. diameter inlet. Diameter of outlet is 18 in. Since this packaged unit is pretested, it can be placed in operation with predictable results. Made by **Aget-Detroit Co.**, 201 Main St., Ann Arbor, Mich.

For more details circle NED-8257 on enclosed inquiry slip

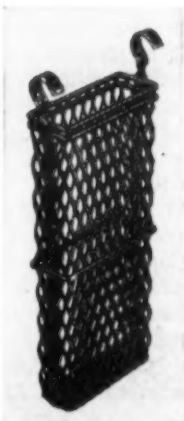
INTERLOCK RECEPTACLE employs automatic circuit breaker



Intended to make any cord set safe for hazardous locations, this interlock receptacle incorporates positive safety cam lever which locks cord caps securely in unit and prevents removal of cord while current is on. Flip of lever breaks circuit and allows plugs to be removed from sockets. Standard flush type single or duplex receptacles fitting any conventional cord cap can be used. Units can be obtained in capacities up to 20 amp. Made by **Panellit, Inc.**, 7218 N. Clark St., Chicago 26, Ill.

For more details circle NED-8258 on enclosed inquiry slip

INSULATED ANODE BASKETS aid salvage of nickel scrap for plating

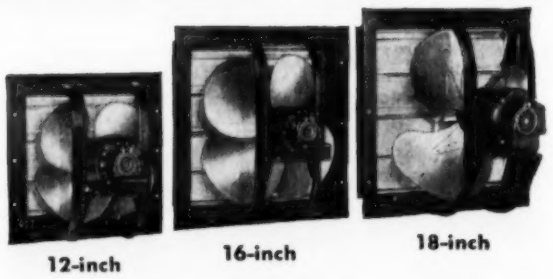


Butts, sword ends and other pieces of nickel that are normally scrapped can be used in their entirety when these insulated anode baskets are employed. Having welded steel cores and completely coated with semihard rubber, expanded metal baskets are designed to absorb shock and prevent cutting. Baskets hang from anode rail, and new anodes are suspended inside with scrap packed tightly around them. Made by **Automotive Rubber Co.**, 8621 Epworth Blvd., Detroit 4, Mich.

For more details circle NED-8259 on enclosed inquiry slip

SAVE

with these NEW EMERSON-ELECTRIC EXHAUST FANS



12-inch 16-inch 18-inch

Here's a brand new line by America's foremost fan maker . . . built for easy installation and rugged service at rock-bottom cost! Equipped with special fan-duty motors and built-in automatic shutters. Large air delivery, quiet operation, fully guaranteed. Write for Bulletin No. 576.

The EMERSON-ELECTRIC MFG., CO., St. Louis 21, Mo.

EMERSON ELECTRIC
MOTORS · FANS APPLIANCES

For more details circle NED-8260 on enclosed inquiry slip

FREE!

32-page Maintenance Manual for Executives

- how to cut building maintenance costs
- how to clean floors of all types
- quick, thorough shampooing of rugs and carpets
- proper use of attachments and accessories

WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF INDUSTRIAL MAINTENANCE EQUIPMENT

BREUER ELECTRIC MFG. CO.
DEPT. N-IR 5100 N. RAVENSWOOD AVE. · CHICAGO 40, ILL.

For more details circle NED-8261 on enclosed inquiry slip

What should a PRODUCTION TOOL do for YOU...?

WHAT MUST IT DELIVER TO WARRANT the EXPENSE?

It Must Amortize Itself Rapidly, then Pay Dividends in Increased Production

DETROIT POWER SCREWDRIVERS

A GREAT CONTRIBUTION TO TIME AND LABOR SAVING

They replace the slow, dragging tempo of hand methods with the almost incredible speed of their mechanical operation, resulting in tremendously increased production, greater economy and stepped-up profits. They drive all types of screws: standard and special heads. Phillips heads and slotless heads. Driving time one to two seconds per screw . . . Uniform tension . . . No marring of heads or stripping of threads. **Screws always in sight of operator.** Let our experience as specialists in assembly problems serve your interests. Send sample assembly with screws for production estimate and prices on equipment to do your job by this modern, dividend-paying method.

Mail Coupon for Catalog

DETROIT POWER SCREWDRIVER CO.
2819 WEST FORT ST., DETROIT 16, MICHIGAN
Yes, send along your new catalog . . . sounds interesting.
COMPANY NAME _____
BY _____
STREET ADDRESS _____
CITY _____ STATE _____

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICH.

For more details circle NED-8262 on enclosed inquiry slip

SLY "Economy" DUST FILTERS

- Simple
- Compact
- Low Priced

Up to 1,400 Cubic Feet of Air per Minute

These complete, compact dust filters offer many economies in limited capacity ranges for the purpose of collecting dust from grinding, screening, mixing, packaging, and finishing operations. Often several of these units are employed in preference to a single large collector, for greater flexibility of operation, to save piping, and to keep different materials separate. They have the advantage of greater cloth area per cubic foot of air, hence greater filtering capacity. (Never install a dust filter with less than one square foot of cloth for each four cubic feet of air per minute.)

These "Unit" Filters can be shipped assembled to facilitate installation. For larger air volumes, there are Sly Dust Collectors with unlimited capacity ranges. May we send you complete information?

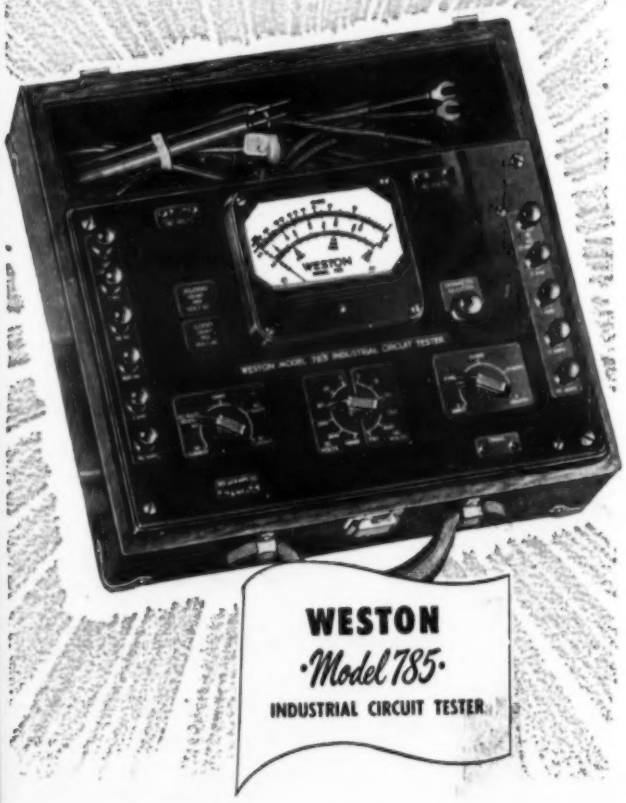
THE W. W. SLY MFG. CO.
4748 Train Avenue • Cleveland 2, Ohio

Representatives in New York • Chicago • Philadelphia • Detroit • Cincinnati Rochester • St. Louis • Toronto • Los Angeles • Birmingham • Minneapolis

For more details circle NED-8264 on enclosed inquiry slip

NO OTHER TESTER

does so much...so well!



In the shop . . . 28 ranges *in one case* to locate circuit troubles on production equipment.

On the bench . . . 28 ranges *in one case* for checking electrical equipment during manufacture.

In the lab . . . 28 ranges *in one case* immediately available for research and development work.

28 Instrument Ranges

D-C VOLTS: 100 mv, 1/10/50/200/500/1000 volts (20,000 ohms per volt).
A-C VOLTS: 5/15/30/150/300/750 volts.
D-C CURRENT: 50 microamps; 1/10/100 milliamps; 1/10 amps.
A-C CURRENT: .5/1/5/10 amps.
RESISTANCE: 3000/30,000/300,000 ohms; 3/30 megohms.
Stock Accessories Available for Extending Above Ranges

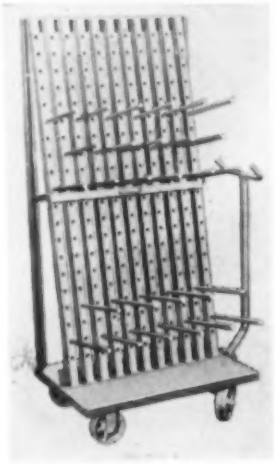
It does *so* much, *so* well, for *so* little. Check your Weston Representative for full details or see your local jobber. Weston Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, New Jersey . . . manufacturers of Weston and Tagliabue Instruments.

WESTON *Instruments*

Albany • Atlanta • Boston • Buffalo • Charlotte • Chicago • Cincinnati Cleveland • Dallas • Denver • Detroit • Houston • Jacksonville • Knoxville Little Rock • Los Angeles • Middletown • Minneapolis • Newark • New Orleans New York • Orlando • Philadelphia • Phoenix • Pittsburgh • Rochester San Francisco • Seattle • St. Louis • Syracuse • Tulsa • Washington, D. C. In Canada, Northern Electric Co., Ltd., Powerlite Devices, Ltd.

For more details circle NED-8265 on enclosed inquiry slip

PARTS HANDLING TRUCK
peg rack is adjustable to part size



Handling and projection of machined or finished parts without damage to them is possible with this adjustable Peg Rack Conveyor. This hand truck has two stationary and two swivel casters for ease of movement. Pegs are adjustable to any spacing so that various sizes of parts can be slipped over or hung from them without contacting other parts. Machined or finished parts can be transported to next operation or to assembly point easily and can be removed from pegs readily. Truck occupies minimum of floor area. Made by **Rack Engineering Co.**, Dept. R-NED, Connellsville, Pa.

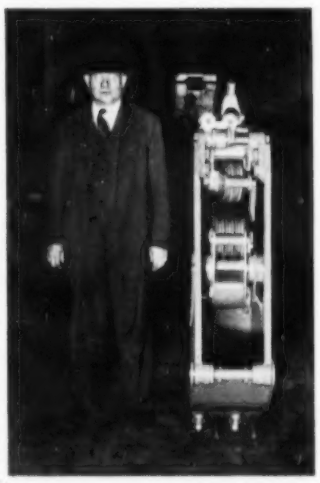
For more details circle NED-8266 on enclosed inquiry slip

X-RAY THICKNESS GAGE
dial setting eliminates masters

Designed for noncontact continuous or intermittent thickness measuring of moving or stationary hot and cold metal strip and nonmetallic sheet, Measuray X-ray thickness gage features quick changeover thickness setting. Models can be obtained for measuring plastics as thin as 0.004-in., cold strip steel as thick as 0.400-in. and hot steel strip up to 0.420-in. thick. Improvements in recent models include small scanning unit containing X-ray tube mounted inside its own transformer, simplified power cabinet, elimination of exterior high voltage cables and simplified remote control station containing all operating and calibrating controls. Made by **Sheffield Corp.**, 721 Springfield St., Dayton 1, O.

For more details circle NED-8267 on enclosed inquiry slip

NARROW TRENCHING BUCKET
has 1/4-yd capacity



Total width of this heavy-duty trenching clamshell bucket is only 16 in. Rated capacity is 7 cu ft and heaped capacity is 10 cu ft. It is furnished with set of four heat-treated abrasion-resistant alloy steel digging teeth and 1¼ x 10. carbon steel digging jaws. This clamshell bucket can be used with all types of power cranes for ditch digging and trencing operations. Its narrow width facilitates removal of only minimum of earth. Made by **George Haiss Mfg. Co.**, 141st to 144th St. on Park Ave., New York 51, N. Y.

For more details circle NED-8268 on enclosed inquiry slip

For more details circle NED-8269 on enclosed inquiry slip

This Air Compressor is SAFE

It's Equipped With a

BS & B SAFETY HEAD!

The Black, Sivalls & Bryson SAFETY HEAD, containing a rupture disc which bursts at a predetermined pressure, stands sleepless guard over this air pressure system. Whenever overheating, mechanical failure or a faulty control causes a suddenly mounting over pressure —a relief valve may not react to it, but the B S & B SAFETY HEAD does! Before the critical point, it bursts . . . and disaster is averted! Investigate this inexpensive protection for **your** property now. Write today to Black, Sivalls & Bryson, Inc., 7500 E. 12th Street, Sec. 5-85-11SH, Kansas City 3, Missouri.

Ask for a B S & B Engineer to call.

Black, Sivalls & Bryson, Inc.
KANSAS CITY TULSA OKLAHOMA CITY

For more details circle NED-8270 on enclosed inquiry slip

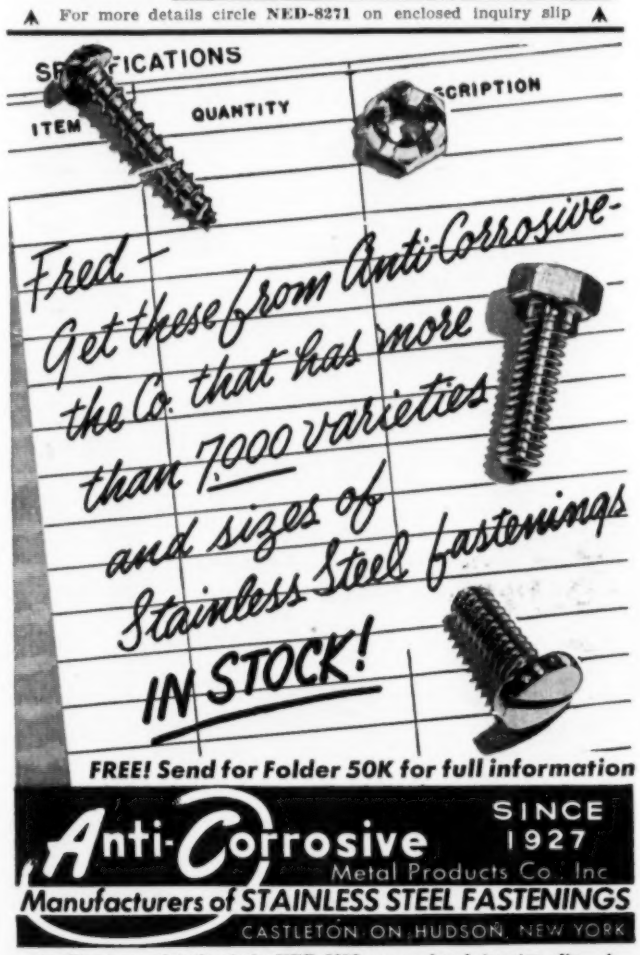
RIGHT AT THE SOURCE OF WASTE

For this 15 hp motor, power losses are corrected where it does the most good—*at the source*. A 4 kvar Sprague Power Factor Correction Capacitor across the terminals reduced reactive circuit current flow through transformers and wiring to a bare minimum . . . slashed power bills noticeably.

Sprague Unit-Cell Capacitors make it unnecessary to buy even one kvar more than you need. Write for the Sprague free guide of cost-saving suggestions, No. 50B.

SPRAGUE SPRAGUE ELECTRIC COMPANY NORTH ADAMS, MASS.
PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT

For more details circle NED-8271 on enclosed inquiry slip



For more details circle NED-8272 on enclosed inquiry slip

RE-NU TOP
STEEL-BOUND SKID PLATFORMS

BUILT TO LAST A LIFETIME

500 LB. LOAD UP TO 10 TONS

Designed to fit your loads and equipment. Plain bolted construction for use with hand lift trucks or bolted and welded under frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

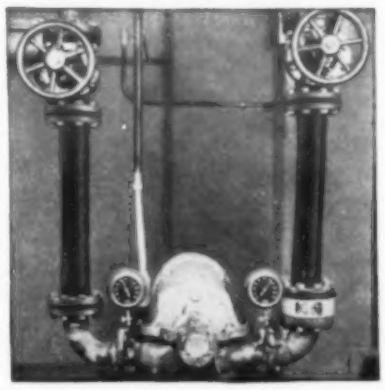
SECTIONAL BINS — ROLLAWAY SKIDS — SKID-BOXES

THE LANHAM COMPANY

Magnolia & 12th Sts., Louisville, Ky.

For more details circle NED-8273 on enclosed inquiry slip

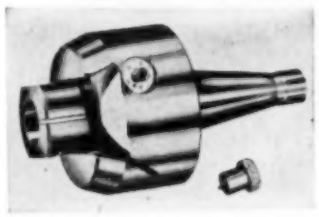
PIPE LINE VIBRATION ABSORBER
sizes for ½ to 14-in. diameter pipe



Usable in water, boiler and air conditioning systems, Soundzorber noise and vibration absorber unit is especially-constructed rubber pipe used as flexible connection between pump and pipe line. Standard flanges on each end of pipe are imbedded in rubber to prevent metal-to-metal contact between pump and piping system. It is bolted to flange of machine and requires no gaskets. Designed for working pressures up to 250 psi with 5-1 safety factor, unit will withstand temperatures up to 250° F. Made by **Finn & Co.**, 2852 Eighth Ave., New York 30, N. Y.

For more details circle NED-8275 on enclosed inquiry slip

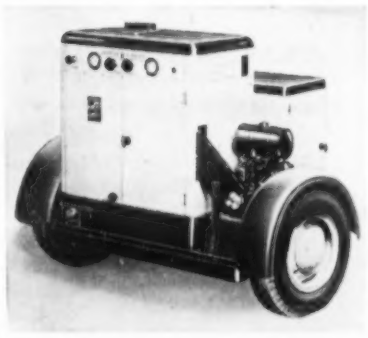
OFFSET BORING HEAD
maximum boring capacity is 4½ in.



Having 3-11/16-in. diameter, size No. 3-50 intermediate offset boring head has been developed for use in popular size vertical mills, jig boring machines and turret lathes. When equipped with extension attachment, maximum capacity is increased to 9 in. It supplements larger and smaller boring heads in line. Made by **Everede Tool Co.**, 2002 N. Parkside Ave., Chicago 39, Ill.

For more details circle NED-8276 on enclosed inquiry slip

OIL-FIRED STEAM CLEANER
is equipped with own power supply



Equipped with 2-hp gasoline engine, illustrated trailer type oil-fired steam cleaner is designed for on-the-job uses where water, gas or electric connections are not available. Two models can be obtained: model A with 120-gal capacity and model AR which combines in one unit steam cleaner of 150-gal capacity and high pressure rinse unit rated at 275 gph. Volume and pressure from rinse unit is ample for rinsing and knocking off mud and heavy encrustations prior to steam cleaning. Both models can be supplied as stationary, portable or trailer types. Made by **Clayton Mfg. Co.**, Dept. N, P. O. Box 550, El Monte, Calif.

For more details circle NED-8277 on enclosed inquiry slip

YALE MIDGET KING ELECTRIC HOIST OPERATES FOR A FEW CENTS A DAY

- Adds economy to the time and effort saving efficiency of electric hoist operation.
- Compact, strong and durable. Has lifetime gears and precision ball bearings.
- One-hand bar-grip control leaves one hand free to guide the load.
- Load brake interlocked with motor brake for double safety.
- Capacities from ⅛ to 2 tons.

Bulletin sent on request

YALE — THE YALE & TOWNE MANUFACTURING CO. Roosevelt Boulevard • Philadelphia 15, Pa.

HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

For more details circle NED-8279 on enclosed inquiry slip

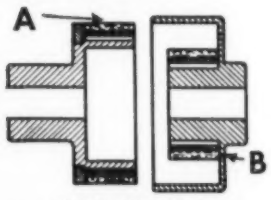
Having any of these Drive Problems?

- HEAVY INRUSH CURRENT
- HARD STARTING
- HIGH INERTIA LOAD
- SHOCK STARTING
- VOLTAGE DROP

These as well as others have been solved with

RAWSON CENTRIFUGAL CLUTCH-COUPLINGS

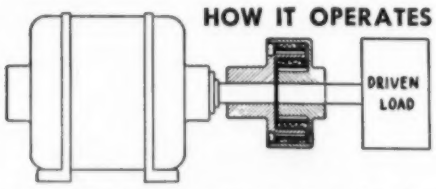
ALSO AVAILABLE FOR BELT AND CHAIN DRIVES



CROSS SECTION OF THE TWO MEMBERS SHOWING (A) OUTER SHOES (B) INNER SHOES

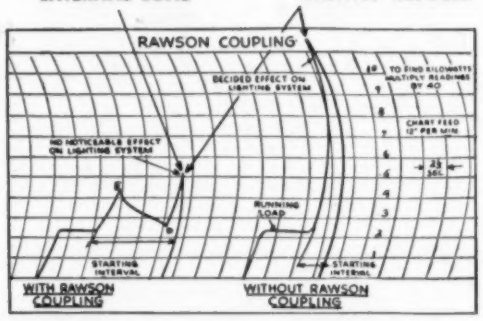
- ★ Outer shoes provide motor rated capacity
- ★ Inner shoes, actuated by driven machine add further starting capacity as load accelerates
- ★ As shoes engage, sliding friction cushions the start—eliminates jerk—prevents damage to motor, machine and product

HOW IT OPERATES



Normal squirrel cage motors start the load as easily as high torque motors

BECAUSE MOTOR STARTS WITHOUT EXTERNAL LOAD — CONSEQUENTLY INRUSH CURRENT IS GREATLY REDUCED



- ★ Motor starts free and gains speed quickly
- ★ Motor turns out its PULL-OUT TORQUE for starting
- ★ Motor can be selected for running load
- ★ Across-the-line starting is recommended

A RAWSON MAY SOLVE YOUR PROBLEM

CONSULTATION INVITED

CENTRIC CLUTCH COMPANY
26 SOUTH AVENUE, WEST
CRANFORD, NEW JERSEY

CENTRIC 914

For more details circle NED-8274 on enclosed inquiry slip

New METHOD SIMPLIFIES WOOD FLOOR MAINTENANCE

MULTI-CLEAN PRODUCTS INC.

PROVIDES TOUGH, DURABLE SURFACE THAT NEEDS LESS ATTENTION

Multi-Clean Floor Preserver eliminates porosity in wood floors, penetrates the fibers and cells of the subsurface. It forms a thin, tough film that holds water, dirt, and foreign matter at the surface for easy removal. It also is an excellent base for wax and reduces slipperiness. Floors treated with Multi-Clean Floor Preserver stay light, attractive, and sanitary—and they require far less attention.

Method FOR EVERY FLOOR

The Multi-Clean Method recognizes that each type of floor requires its own special care. For each there is a carefully planned, thoroughly tested and proved procedure, combining the use of Multi-Clean Liquid Floor Chemicals and Floor Machines to achieve easier maintenance, more attractive appearance, and longer life.

FREE—MULTI-CLEAN FLOOR MAINTENANCE MANUAL

Write today for the free maintenance manual written for your specific type of floor. State what kind of floor you are interested in—address Multi-Clean Products, Inc., Dept. 328 St. Paul 1, Minn.

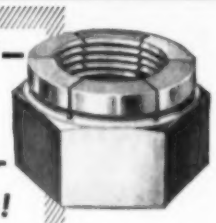
MULTI-CLEAN PRODUCTS, INC.

Custom Cleaning Chemicals
Floor and Rug Machines • Permanent Floor Finishes • Industrial Vacuums

For more details circle NED-8278 on enclosed inquiry slip

A fastener AIN'T, *if—it works loose.*

The "FLEXLOC" IS—*because it won't!*



FLEXLOC

ONE-PIECE, ALL-METAL
STOP- and LOCK-NUT

Its "chuck-like," resilient locking segments lock the "FLEXLOC" securely in any position on a threaded member with a controlled, uniform and dependable torque.

Tough applications demonstrate that the "FLEXLOC" positively "won't work loose", yet it can be removed easily with a wrench when desired. Because it is all-metal, temperatures as high as 550°F. hold no terrors for the "FLEXLOC."

The "FLEXLOC" has plenty of tensile . . . can be re-used many times . . . has therefore a long, effective life.

Write for further information and free samples.

SPS — STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-8280 on enclosed inquiry slip

Extra Protection
AGAINST HIGH MOTOR COSTS

3 Great Protective Features!

- Heavy cast iron frame protects top, bottom, sides, ends. Resists corrosion, distortion, physical abuse.
- Ball bearings pre-lubricated at factory. Need no attention for years. Protected against inadequate maintenance.
- Multiple-dipped and multiple-baked stator plus inter-phase insulation protect against electrical breakdown.

GET FULL DETAILS on the extra-protective features of *Safety-Circle* motors. Ask your A-C Authorized Dealer or Sales Office or write for Bulletin 51B6210. Sizes 1 to 20 hp. A-2707

ALLIS-CHALMERS *"Safety-Circle"* DRIP-PROOF MOTORS

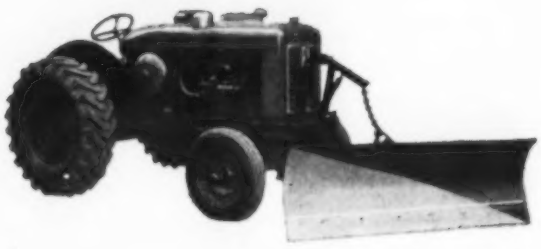
Safety-Circle is an Allis-Chalmers trademark

Allis-Chalmers, 918A So. 70 St., Milwaukee, Wis.

ALLIS-CHALMERS

For more details circle NED-8281 on enclosed inquiry slip

SCHRAMM Pneumatractor



Pneumatractor with Snow Plow

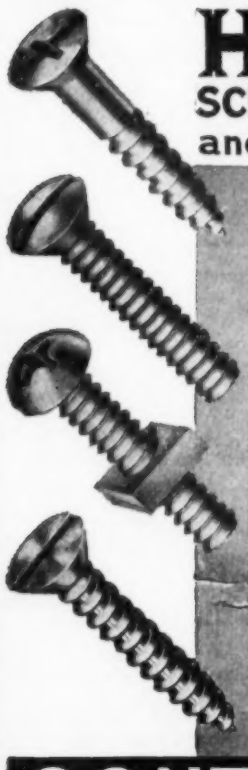
The SCHRAMM *Pneumatractor* is a self-propelled tractor compressor recommended for operating a wide variety of pneumatic tools and auxiliary equipment for plant maintenance. The Reversible Snow Plow includes a 7-foot blade adjustable for desired angle (up to 30°) right or left.

Write for Bulletin PRP-50

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▲ For more details circle **NED-8282** on enclosed inquiry slip ▲

HOLTITE
SCREWS, BOLTS, NUTS and allied fastenings



Rugged, accurate and consistently uniform, HOLTITE precision-made fastenings are produced in all types, head styles, and finishes for ANY application in ANY material.

HOLTITE - Phillips Recessed Head Fastenings effect savings in time up to 50% and more. Power drivers can be safely used even on finished parts to speed assembling and eliminate marring of work and injuries to operators.

Send in your fastening problems. Our Engineering Staff will gladly study them and make recommendations for the most practical methods of reducing your costs. We have the most complete facilities for producing Special parts and fastenings.

CONTINENTAL SCREW CO.
New Bedford, Mass., U.S.A.
CALL YOUR DISTRIBUTOR

▲ For more details circle **NED-8283** on enclosed inquiry slip ▲

STURDY, CONVENIENT, LOW-COST JIFFY ALL METAL CABINETS

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS $8.95

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS $15.95

Rustproof Aluminum Drawers

Complete set of Dividers and Index Cards supplied.

APPROXIMATE SIZES
DRAWER: 1¼" Deep, 2¾" Wide, 6" Long
32 DRAWER UNIT: 6" Deep, 12¾" Wide, 15¼" High
64 DRAWER UNIT: 6" Deep, 25½" Wide, 15¼" High

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work at such a low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS
DEPT. P BOX 588 - CANTON, OHIO

▲ For more details circle **NED-8284** on enclosed inquiry slip ▲

METAL SPRAY GUN
holds 7 lb of low-melting alloy

Suitable for intermittent or production operation, Spray King low-temperature metal spray gun is thermostatically controlled. Features are adjustable spray, nonclog nondrip nozzle, compact stainless steel construction, replaceable heating element and ease of operation and maintenance. Unit has application in production of patterns, precision castings, tools and dies, rectifiers and dental supplies. Made by **Cooper Alloy Foundry Co.,** Foundry Accessories Div., Dept. NED, Bloy St. & Ramsey Ave., Hillside 5, N. J.

▲ For more details circle **NED-8285** on enclosed inquiry slip ▲

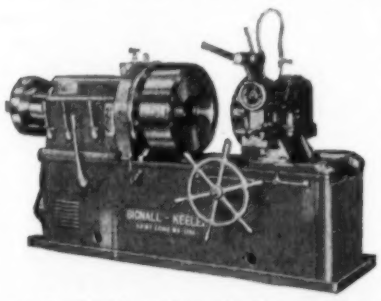
VERNIER CALIPER
slide button locks at any position

Quick and accurate inside, outside and depth measurements are obtained with this precision vernier caliper. Lower scale of instrument measures work up to 5-5/16 in. in vernier readings of 0.001-in. Upper scale measures up to 135 mm in vernier readings of 0.05-mm. Tips of 1-9/16-in. long jaws are beveled in front for measuring into slots or threads and back edges are flush for measuring into corners or narrow shoulders. When slide button is released by thumb, vernier slide locks itself at any measuring position in upper gib instead of lower section. Thus lower slide surface is always flush against caliper shank regardless of pressure or release, and jaws are always parallel. Of hardened chrome steel, caliper is supplied in polished wooden case. Distributed by **Techno Exports,** 15 Whitehall St., Room 612, New York 4, N. Y.

▲ For more details circle **NED-8286** on enclosed inquiry slip ▲

PIPE THREADING MACHINES
cover range of sizes from 1 to 8 in.

Illustrated pipe threading machine accommodates from 1¼ to 6-in. diameter pipe and is one of several types and sizes available in redesigned line. Improvements and features include tapered roller bearings on all shafts and arbors, precision cut gears, automatic lubrication of gears and bearings, electrical reversing, power chucking and sturdy carriage positioned by cut-tooth racks. Appearance has been modernized, and controls are more easily accessible. Made by **John Ramming Machine Co.,** Bignall & Keeler Div., 4597 McRee Ave., St. Louis 10, Mo.



▲ For more details circle **NED-8287** on enclosed inquiry slip ▲

RAISE YOUR LOAD
two feet higher
WITH THE NEW...

5305 R 22

AMERICAN HIGH LIFT CRANE BLOCK

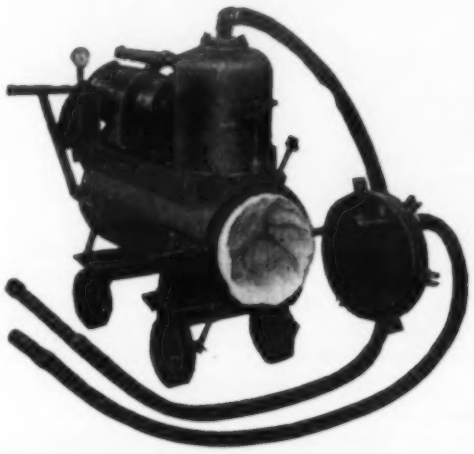
GETS YOU OUT OF TIGHT SPOTS because it's 1½ to 2 feet shorter than ordinary crane blocks. Often saves adding a boom section. Anti-friction bearings throughout. Needs lubrication only once every 2,000 hours. Sizes 10 to 50 tons; one, two or three sheaves, 18" to 24" diameter. *Send for catalog today!*

American Hoist & Derrick Company
St. Paul 1, Minnesota

PLANT NO. 2: SO. KEARNY, N. J. • SALES OFFICES: NEW YORK • PITTSBURGH • CHICAGO

▲ For more details circle **NED-8288** on enclosed inquiry slip ▲

Keep Cutting Oils and Coolants



Houdaille Mobile
works while

New Houdaille Mobile coolant and cutting oil machines... keeps sump costs. One machine can effect an entire battery of machines.

Write TODAY for complete information on the full line of equipment for filtration and handling of metal and coolants.

HONANCR
405
A Subsidiary
HO
*Pronounced

CLEAN OIL ENGINEERING

▲ For more details circle NED-[illegible] on enclosure ▲

Cartons or C

MATHEWS C
GENERAL OFFICES *Mathews Conveyor Compa*
PACIFIC COAST DIVISION *Mathews Conveyor Com*
CANADIAN DIVISION *Mathews Conveyor Comp*

▲ For more details circle NED-[illegible] on enclosure ▲

AGAIN "77" RUNS WITH THE BALL!

SEND FOR YOUR FREE COPY OF

UNION METAL CATALOG

it describes the latest in cost-cutting materials handling equipment

● During recent years there have been many important advancements in the design and construction of materials handling boxes, skids and pallets . . . developments that save real money in the handling, flow and storage of all kinds of material. You'll find this particularly true in the Union Metal line—believed to be the most extensive, most complete on the market today.

The new 24-page catalog, No. 77, tells all about the latest Union Metal features and developments. It also shows and clearly describes the wide variety of standard skid-box-pallet combinations possible for the simplest solution to practically *any* materials handling problem.

Send for your copy. Look it over. Unless we miss our guess it will give you some ideas that will pay. Just use the handy coupon or write to the Union Metal Manufacturing Co., Canton 5, O.

UNION METAL
Materials Handling Equipment

▲ For more details circle NED-[illegible] on enclosure ▲

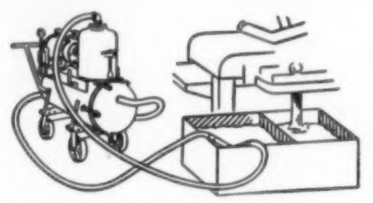
its *Clean* without DOWN-TIME

ud-ill-e*

ob-le Coolant Filter

ks -hile production continues

oudai- Mobile Coolant Filter provides clarification for
and -ting oils without shutting down metal working
s... -ps sumps clean . . . saves time . . . cuts maintenance
ne m- can efficiently service
e bat- of machine tools.
TOD- for complete informa-
the - line of Honan-Crane
ent f- filtration, purification
ndling- metal working oils
plants.



-AN CRANE CORPORATION

405 WABASH AVENUE • LEBANON, INDIANA

A Subsidiary of

HOUDAILLE-HERSHEY CORP.

*Pronounced Hoo-Dye

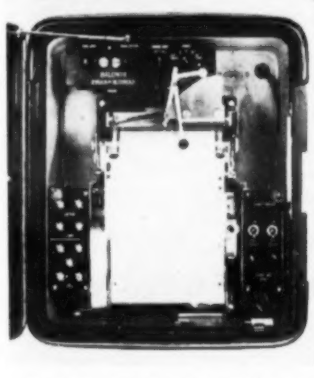
-le NED- on enclosed inquiry slip

UNDERDRIVEN ECCENTRIC PRESS
in capacities from 300 to 3000 tons

Suitable for heavy-duty round-the-clock service such as in automotive stamping plants, illustrated SU-4 four-point single-action underdriven press can be obtained in 63 standard sizes with bed areas ranging from 72 x 48 in. to 300 x 108 in. Press is double geared with driving eccentric cast integral with main drive gears, and bearings are arranged to permit shafts to be dropped straight down. Fast-acting single-disk pneumatic friction clutch does not require adjustment for wear, and friction plates are arranged for rapid heat dissipation. Motor-driven slide adjustment mechanism meshes with external threads on top of side posts to provide long adjustment by lengthening threaded portion of posts. Since work load is carried entirely by side posts, tie rods are not required in frame of press. Made by **E. W. Bliss Co.,** Canton, O.

For more details circle **NED-8292** on enclosed inquiry slip

STRAIN RECORDER
strip chart type in three ranges up to 10,000 microinches per inch



Surface strain in structures and machines can be measured continuously by resistance wire strain gages and this SR-4 strain recorder. Electronic-type instrument is designed and calibrated for use with two gages having resistance of 118.8 to 121.2 ohms and sensitivity factor between 1.9 and 2.2. Usually one gage is active and other is used for temperature compensation, but both may be active for combined bending and tensile stresses or differential strains.

Available ranges are 0 to 2000, 0 to 5000 and 0 to 10,000 microinches per inch. Chart is 4½-in. wide and has ten travel speeds ranging from ¾ to 720 in. per hour. Instruments are available with full scale traverse speeds of 1, 3 or 5-seconds without overshoot. Pen can be zeroed at any point on chart and instrument range can be changed at any time during measuring run if zero adjustment settings for all three ranges have been determined initially. Recorder is provided with controls and simple adjustments for coarse and fine zero settings, gage factor and range. Precision measurement of gage resistance variations is made by 1000-cps bridge circuit. Accuracy is unaffected by amplifier tube characteristics or by normal power variations. Made by **Baldwin Locomotive Works,** Dept. T. E., Philadelphia 42, Pa.

For more details circle **NED-8293** on enclosed inquiry slip

STRUTHERS-DUNN
THERMAL TIME
DELAY RELAYS

dependable
...low cost
thermal timing

Struthers-Dunn thermal time delay relays offer a broad, economical selection for hundreds of applications where highly precise motor-operated timers represent unnecessary expense. Standard timing accuracy is ±10%. Suitable units are supplied for practically any specified timing from 1 second to a matter of minutes. Non-immediate recycling types that function through heating action only and immediate recycling types utilizing both the heating and cooling cycles are available.

WRITE FOR S-D DATA BULLETIN 8500

STRUTHERS-DUNN, Inc.
150 N. 13th St., Philadelphia 7, Pa.

BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI
CLEVELAND • DALLAS • DETROIT • KANSAS CITY • LOS ANGELES
MINNEAPOLIS • MONTREAL • NEW ORLEANS • NEW YORK • PITTSBURGH
ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

For more details circle **NED-8295** on enclosed inquiry slip

-ton -r Coils - OUNCES OR TONS

handling it is a
-ATHEWS job

With sound engineering practices and quality
-rials, Mathews builds fine, versatile material handling
-pment . systems capable of meeting any conveying re-
-ement for handling any package . . . from a twenty-five ton
to a one pound carton.
-hen you install a Mathews Conveyer system in your plant,
-get technical experience in a product built to withstand years
-gged punishment, PLUS a seasoned engineering staff, willing
-able to assist you in the solution of your conveying problems
-gineering offices located in principle American and
-adian cities.

-W- CONVEYERS

-Convey- Company . . . . . Ellwood City, Pennsylvania
-ws Con- -er Company West Coast . . San Carlos, California
-s Con- -r Company, Ltd. . . . . . . Port Hope, Ontario

-le NED- on enclosed inquiry slip

For Brazing at 2050°F.

Woven Wire Belts built by ASHWORTH are breaking records . . .

On three different installations
National Stamping Company, Detroit
Contract Specialties Corporation, Detroit
Salkover Metal Processing of Illinois, Chicago

Ashworth built Wire Belts have broken all previous records for this type of service, running up *to 7,000* and *8,000 hours at 2050°F.*

WHAT IS YOUR HANDLING or PROCESSING PROBLEM?

WRITE FOR ILLUSTRATED CATALOG 47D

ASHWORTH BROS., INC.
METAL PRODUCTS DIV. • WORCESTER, MASS.

Sales Engineers located in Buffalo • Chattanooga • Chicago • Cleveland • Detroit Los Angeles • New York • Philadelphia • Pittsburgh • Seattle

Canadian Rep., PECKOVER'S LTD. - Toronto - Montreal - Halifax - Winnipeg - Vancouver

For more details circle **NED-8296** on enclosed inquiry slip

- BA-L!

-y OF

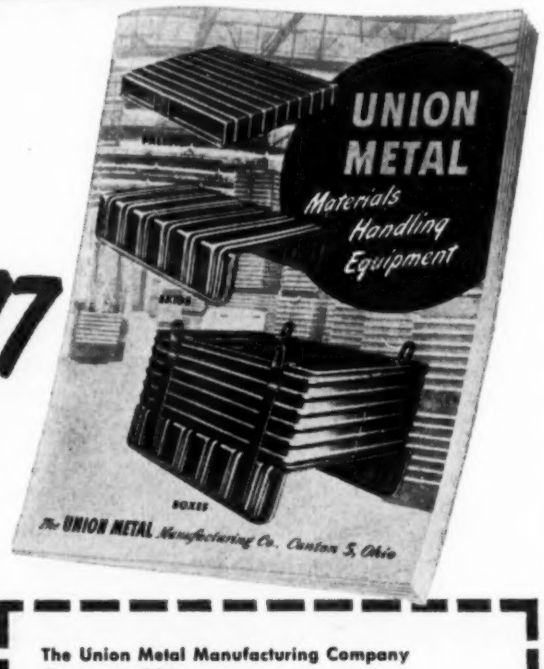
-TA-LOG 77

-n

-equip-ent

-nion M- features
It also -ws and
-e wide -riety of
-allet co-inations
-est solu- to prac-
handli- problem.
-opy. Lo- it over.
-r guess -will give
-will pay! Just use
-write to -e Union
-g Co., C-ton 5, O.

-AL
-pme-t



The Union Metal Manufacturing Company
Canton 5, Ohio
Please send me a free copy of Catalog No. 77.
Name________
Company________
Address________
City________ State________

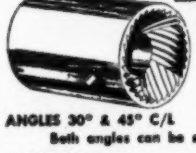
-le NED- on enclosed inquiry slip

Severance DEBURRING CUTTERS HIGH SPEED CARBIDE

Unexcelled for power and hand deburring
Sectional pattern teeth give shearing action

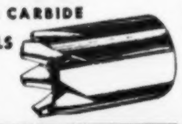
Severance INSIDE DEBURRING CUTTERS
GROUND from the solid
Select 45° High Speed cutters from 28 standard sizes and 30° cutters from 35 sizes—from ¼" to 3" diameters.
45° 30°
Both angles can be supplied in CARBIDE

Severance OUTSIDE DEBURRING CUTTERS
GROUND from the solid



For speedy light deburring of rod ends and tubing O.D's., either off-hand or in screw machines. Select 30° cutters from 14 standard sizes and 45° cutters from 10 sizes—up to 4 inch diameter.
ANGLES 30° & 45° C/L
Both angles can be supplied in CARBIDE

OUTSIDE CHAMFERING MILLS



Operate in machines to perform heavy chamfering without chatter —in above size range and angles.

HEADQUARTERS FOR DEBURRING AND CHAMFERING TOOLS DEVOID OF CHATTER

Severance HAND DEBURRING CUTTERS

"A Twist of the wrist" easily bites off the bur left by drill or punch.
Ten standard sizes for ¼ to 2" diameters.
Write for Bulletin 16-D

Complete REGRINDING Service — by New Tool Craftsmen — Savings are thus multiplied —

SEVERANCE TOOL INDUSTRIES, Inc.
761 Iowa Ave. Saginaw, Michigan

For more details circle **NED-8294** on enclosed inquiry slip

BABY BUNTING PREFERS TUFFLEX!*

Rabbit skins aren't even in the running when compared with the fleecy-soft resilience of Tufflex Protective Padding! That's why Tufflex—the remarkable *felted* wood fiber material—is widely used where products must be protected from marring and heavy impact blows. But that's only ONE of the many uses for Tufflex! Tufflex provides superior cushioning for upholstered furniture and other products...is highly efficient for thermal insulation and sound deadening. Obtainable in moisture resistant, fire retardant and moldproof forms, Tufflex easily cuts to any size or shape. Get all the facts about Tufflex—Write us!

*REG. U.S. PAT. OFF.

WOOD CONVERSION COMPANY

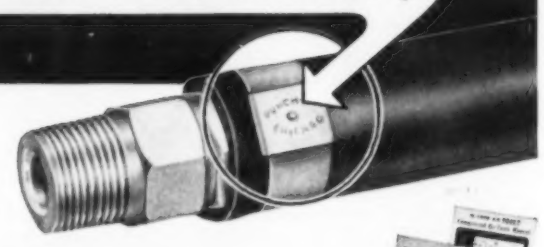
DEPT. 127-110 FIRST NATIONAL BANK BLDG., ST. PAUL 1, MINN.

For more details circle **NED-8297** on enclosed inquiry slip

For Production and Maintenance

PUNCH-LOK HOSE CLAMPS and FITTINGS

LOOK—it's locked for Safety



Today's Best Bet—For Leakproof Hose Connections

Write for Catalog and Air Leak Cost Chart

PUNCH-LOK COMPANY

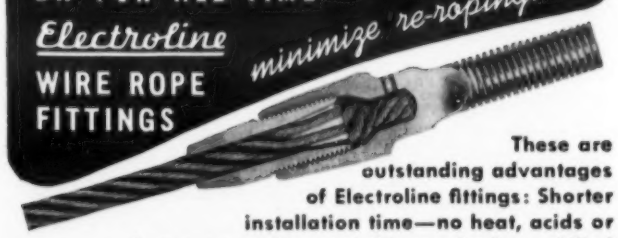
Dept. 5, 321 North Justine Street, Chicago 7, Illinois

For more details circle NED-8299 on enclosed inquiry slip

PUT ON IN NO TIME ... STAY ON FOR ALL TIME—

Electroline WIRE ROPE FITTINGS

minimize re-roping!



These are outstanding advantages of Electroline fittings: Shorter installation time—no heat, acids or dangerous molten metal is required—unskilled labor, using ordinary mechanic's tools, make connections in a matter of minutes. And, these permanent wire-rope fittings prolong the life of rope by damping vibration and overcoming rope-fatigue at entrance to fittings—can be reclaimed and used over and over again.

Illustrated, pocket-size Catalog fully describes all advantages of Electroline wire rope fittings . . . send for your copy, today.

Electroline Company

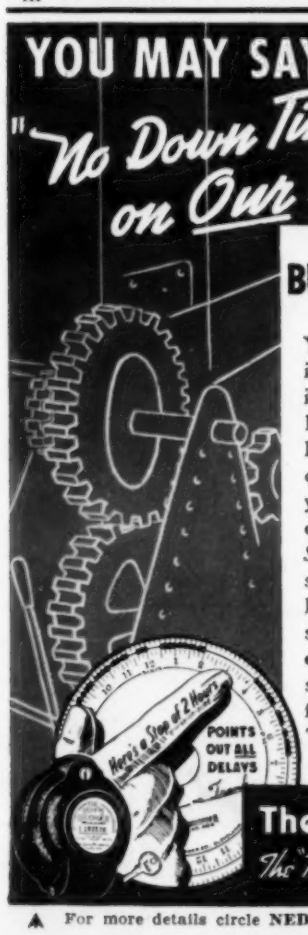
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS

For more details circle NED-8300 on enclosed inquiry slip

YOU MAY SAY— "No Down Time on Our Machines"

BUT—ARE YOU SURE?

You can't be sure by just walking around the plant and "keeping an eye on them." Too many little unnoticed stops and delays creep in that way. And they can add up to *quite a total!* No, you can be *certain* of full machine hours only by installing *Servis Recorders.* Their charts show you ALL down time, even little 10 minute periods—day shift or night shift. Tells you exactly when each machine stood idle—*and how long.* Write for our folder, "*A Busy Plant.*" The Service Recorder Co., 1375 Euclid Ave., Cleveland 15, O.



The Servis Recorder

The "Time Clock" for Machinery

For more details circle NED-8301 on enclosed inquiry slip

INDUSTRIAL CASTERS have 4, 5, 6 and 8-in. wheel sizes

By using extremely high pressure to form top plate and yoke base of these series 41 and 42 industrial casters, heating and machining expense is eliminated. This cold forging process coins ball raceways, giving dense highly polished wearing surfaces for long life and easy swiveling. Casters are intended for use on live skids, assembly stands, parts trucks, heavy machinery and portable equipment. Wheels available include Nicro-steel, Durastan plastic, Soft-Tred, Hard-Tred and Mold-on rubber with capacities ranging from 260 to 900 lb. Made by **Rapids Standard Co.,** Dept. CF412, 342 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-8302 on enclosed inquiry slip

SHELF HANGERS provide extra space for storage

Made of Bethanized ¼-in. steel wire, Add-A-Pair shelf hangers can be used in multiple installations to hold up to 1000 lb of pipe, lumber, paint, boxes, wrapped paper, old files and miscellaneous material. Illustration shows how construction permits addition of extra shelves to those already installed when further storage space is needed. Hangers require 8-penny nails for installation and are supplied in cartons of 24 pieces at list price of $6. Made by **Ambler Distributors,** Ambler 44, Pa.

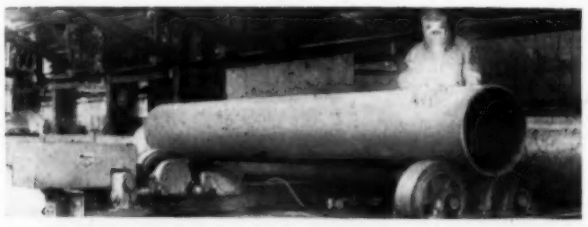
For more details circle NED-8303 on enclosed inquiry slip

DUPLICATING MACHINE reproduces written or typed copy

Up to five colors can be printed at one time with Apeco Speedliner duplicator. This manually operated machine prints up to 60 copies per minute of anything written, typed or drawn. Also available for office use is Photoexact Copier which instantly produces legally-accepted exact copies of any written or printed matter by a photo-like process. Executives writing on their letterhead for information on these machines will receive a free Apeco-Eversharp ball-point pen. Address **American Photocopy Equipment Co.,** 2855 N. Clark St., Chicago 14, Ill.

For more details circle NED-8304 on enclosed inquiry slip

Increase Arc-Time...Welding Output 50% with Worthington-Ransome Turning Rolls



Eliminate waste waiting time—turn cylindrical pieces automatically . . . continuously . . . at any desired speed.

And get better welds . . . because all welding is done in *downhand* position with heavier electrodes.

Capacities 3 to 150 tons.

Important Features

- **Anti-friction bearings.**
- **Steplessly-adjustable variable speed drive.**
- **Faster load handling—due to drive being lower than rollers.**
- **Easy maintenance—complete drive quickly removable.**

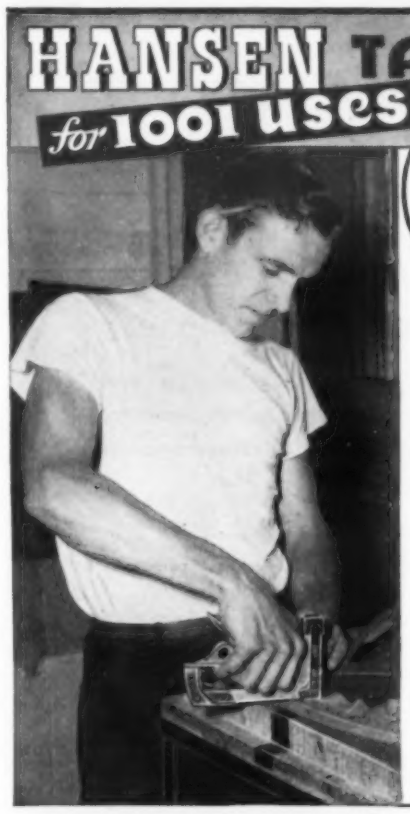
Write for Bulletin 228, Worthington Pump & Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, N. J.

WORTHINGTON

WORTHINGTON-RANSOME TURNING ROLLS

For more details circle NED-8305 on enclosed inquiry slip

HANSEN TACKER for 1001 uses



CHAIR seat covers—with a saving of 6c per seat—with neater, faster work—are being tacked with the Hansen Model T-2 Tacker.

It does a more efficient job for Leo L. Woodard Sons Co., Owosso, Mich. It provides neater seat covers, held securely in place.

What are your tacking problems? Submit specimen or sketch, with details.

Request Booklet

HANSEN

A.L. HANSEN MFG. CO.

5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

For more details circle NED-8306 on enclosed inquiry slip

MOTOAIR

VACUUM or PRESSURE PUMP delivers faithfully according to its rating; built in ONE integral unit; has *less* parts to wear out; demands *less* space; lubricates itself *automatically; eliminates* extended drives, gears and belts; operates *without* pulsation, and serves a score of industries. Slightly larger than the motor that runs it, it operates at lower maintenance costs.

Get complete FACTS—*then decide!*

809

NEW JERSEY MACHINE CORPORATION

1530 Willow Ave. • Hoboken, N. J.

Factory offices in Chicago, Cincinnati, Los Angeles

For more details circle NED-8307 on enclosed inquiry slip

ONLY SAFETY BELT HOOKS

have the patented binder bars—are rigidly mounted in double steel strips that hold hooks permanently in alignment, assuring uniform tension across the belt, maximum traction and long belt life. Moreover, these bars protect belts—lap over belt ends, prevent fraying, prevent hooks from pulling out. This better belt lacing comes in 5 sizes. It can be applied with any standard lacer or lacing machine, or, can be applied with an ordinary hammer by using the inexpensive Safety Tu-way Lacer.

Write for Circular

Safety BELT-LACER CO.

5378 N. Menard Ave.
Chicago 30, U. S. A.

For more details circle NED-8308 on enclosed inquiry slip

FEROX

T. M. REG. U. S. PAT. OFF.

America's No. 1 Rust Destroyer!

Save money—protect equipment with this safe, quick-acting rust disintegrator that not only does a thorough rust removing job but also fortifies against further rust destruction.

FEROX IS EASY TO USE . . . Simply soak parts in a tub full of FEROX—and watch the rust disappear. Rub larger areas with coarse rag, steel wool or stiff bristled brush dipped in FEROX.

FEROX WORKS QUICKLY . . . removes all rust from heaviest scale to lighter film . . . it is used full strength for heavy duty work . . . extended with 1 to 10 parts water for thin sections and intricate parts.

FEROX DOES NOT COST . . . it saves many times what you pay for it in the value of metal it salvages.

PROVE THIS WITHOUT RISK . . . order a 4 gallon trial unit of FEROX today ($16.00 F.O.B. Phila.). Try 2 gallons. If not entirely satisfied return the balance within 30 days, transportation prepaid, and we will cancel the invoice. Order your trial unit today!

Department F
SERVICE INDUSTRIES
2103-05-07 E. Somerset St., Philadelphia 34, Pa.

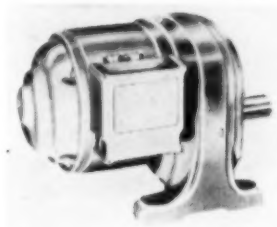
For more details circle **NED-8309** on enclosed inquiry slip

CELLULOSE TAPE imprinted for use as safety labels

Printed in vivid colors with words 'Poison', 'Corrosive' and 'Flammable', this cellulose tape is available in roll form with heavy cast dispenser. Tape is recommended as safety precaution for marking reagent bottles, packages, etc., that are handled by individual workers. Tape is ½-in. wide, and each printed portion is about 3½-in. long when cut off by integral serrated edge. Each roll contains approximately 200 printed portions. 'Poison' label is printed with yellow letters on black background, 'Flammable' label with red letters on white, and 'Corrosive' with black letters on yellow. Made by **Fisher Scientific Co.**, 715 Forbes St., Pittsburgh 19, Pa.

For more details circle **NED-8312** on enclosed inquiry slip

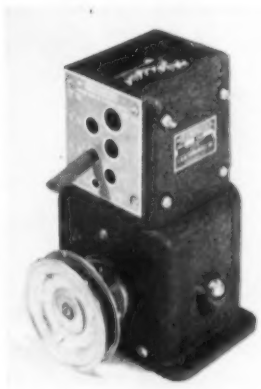
GEAR-HEAD MOTORS are single-phase capacitor type



Built with single or double reduction gears, Slo-Speed geared electric power drives provide speeds from 780 down to 30 rpm in ratings from ½ to 3 hp. Utilizing newly-designed starting relay which requires no rotating devices, motors have one-piece cast iron stator frame, Herringbone rotor and Vinol-acetal-insulated wire stator windings. Made by **Sterling Electric Motors, Inc.**, Dept. NED, Telegraph Rd. at Atlantic Blvd., Los Angeles 22, Calif.

For more details circle **NED-8313** on enclosed inquiry slip

LABORATORY PUMPING UNIT provides continuous liquid flow



Designed to pump liquids or gases, model T-6 Sigmamotor can also accommodate solids in solution and handle from 1½ to 30 gph without speed changes. Continuous liquid flow is achieved by series of 'fingers' that exert pressure on flexible tubing which also prevents contamination from contact with mechanical parts. With proper selection of tubing, vacuums in excess of 28 in. of mercury can be maintained, and pressures up to 25 psi are practical. Unit can be installed easily in any system with commercial fittings, and if desired, it can handle number of different fluids at same time entirely independent of each other. Made by **E. & M. Enterprises, Inc.**, 516 Vernon St., Middleport, N. Y.

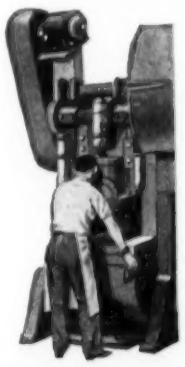
For more details circle **NED-8314** on enclosed inquiry slip

For more details circle **NED-8316** on enclosed inquiry slip

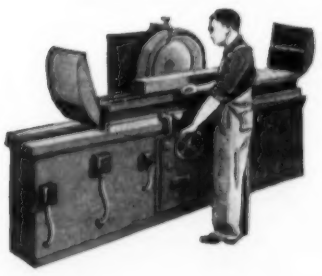
BEST BET TO BOOST OUTPUT

General Electric adjustable-speed drives can increase the output of your machines—make them more accurate, more versatile

You can now buy General Electric drives precision-engineered for your machines, at mass production prices. General Electric has brought them to a new high in versatility and power to work production miracles like those shown here:



STEPPED UP PUNCHING 968%
A feat performed on a large punch press, hiking output from 78 to 800 parts per minute.



INCREASED GRINDING PRODUCTION 40%
This gain was achieved on a Buffalo company's face and knife grinder with an adjustable-speed drive.

TO UNCOVER OPPORTUNITIES for adjustable speed in *your* plant, General Electric offers: First, the assistance of specially trained sales engineers. Pick up your phone now and call your nearest G-E field office. *Second*, a comprehensive, carefully illustrated book on the *whole* subject of adjustable speed. Write for Bulletin GEA-5334 on your business letterhead. *Apparatus Department, Section 751-1E, General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC
751-1E

For more details circle **NED-8317** on enclosed inquiry slip

Figure the HOLE Cost!

ADJUSTABLE MULTIPLE DRILL HEADS

Fit any machine, 2 to 10 Spindles.

Save 2 to 10 Operations

PRICES: 6" DRILLING AREA
1/4 capacity, 21/32 center

U-1	3 Spindle Head,	$190.00	U-1	6 Spindle Head,	$215.00
4	" "	198.00	7	" "	228.00
5	" "	203.00	8	" "	254.00

PRICES: 10" DRILLING AREA
1/2 capacity in cast iron standard
3/4 special adaption in cast iron

U-2	3 Spindle Head,	$246.00	U-2	7 Spindle Head,	$383.00
4	" "	280.00	8	" "	418.00
5	" "	315.00	9	" "	453.00
6	" "	349.00	10	" "	487.00

US HEADS SINCE 1915

WRITE TODAY FOR FREE 1950 CATALOG

IMMEDIATE DELIVERY

Also manufacturer of all types of fixed center and individual lead screw tapping heads.

UNITED STATES DRILL HEAD CO., Dept. H, 616-18 Burns St., Cincinnati 4, O.

For more details circle **NED-8310** on enclosed inquiry slip

CLEANING HOT PITS WITH VACUUM

Large car wheel pits, 30 feet deep, were formerly cleaned by a man with a bucket and a shovel, after the pits cooled down. Now Spencer Vacuum is lowered into the pit while it is still hot. It is a double saving-man hours and equipment hours.

Other hot materials handled by Spencer Vacuum include fly ash from water tube boilers, and hot slag from open hearth furnaces. Metal asbestos-lined hose and glass filter bags are available for special applications. 356-S

150 USES FOR VACUUM . . . ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD

For more details circle **NED-8311** on enclosed inquiry slip

Carter

CUTS COSTS WAY DOWN!

CARTER MICRO-PRECISION GUIDE

Now! Carter introduces its new line of ball-bearing and Oilite Precision Guides for all sized bandsaws. Carter products universally accepted as standard equipment by leading bandsaw manufacturers.

MODEL	LARGE	MED.	SMALL
BALL BEARING WHEEL	$15.00	$13.50	$12.00
OILITE WHEEL	$10.00	$ 8.50	$ 7.00
SAWS	⅛"-1¾"	⅛"-1¼"	⅛"-¾"

PRICES SUBJECT TO CHANGE

Write For free illustrated folder!

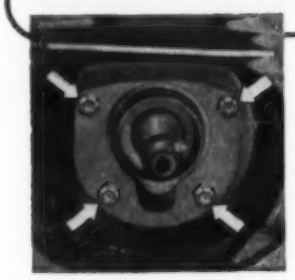
CARTER PRODUCTS COMPANY INC.
69 MOUNT VERNON AVE., N. W., GRAND RAPIDS 4, MICHIGAN

For more details circle **NED-8315** on enclosed inquiry slip

These HUGLOCKS are the nuts to . . .

withstand

SHOCK-LOADING AND VIBRATION



Huglocks on rear brake backing plate

The HUGLOCK is a one-piece, all-metal, self-locking nut designed for use wherever shock-loading and vibration are a problem . . . even under heat, oil or moisture.

Other "National" Lock Nuts include: MARSDEN—for effective locking at minimum cost. DRAKE—for rugged, heavy equipment where severe stress, shock or vibration must be overcome. DYNAMIC—for lightweight, low-clearance, locking in shear.

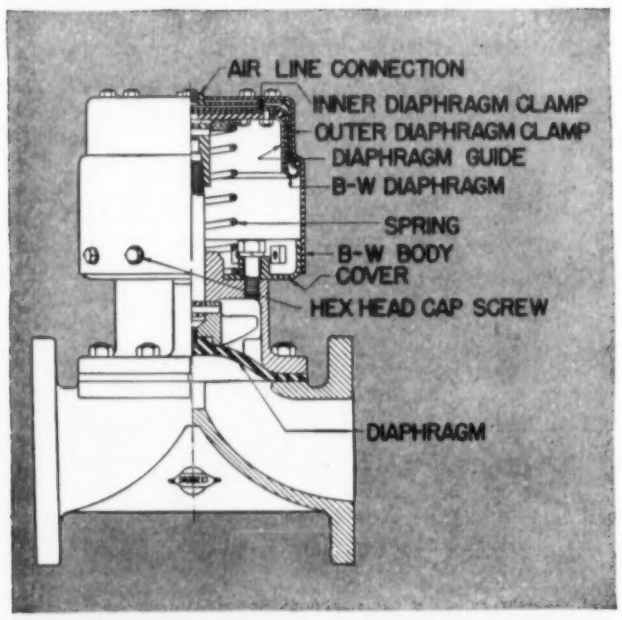
Write for Lock Nut Booklet giving engineering, design, weight and cost data.

National PRODUCTS

THE NATIONAL SCREW & MFG. CO., CLEVELAND 4, OHIO

For more details circle NED-8318 on enclosed inquiry slip

Grinnell-Saunders Diaphragm Valves *power-operated* by Bendix-Westinghouse Rotochamber Top-works



- Rolling sleeve type of seal . . . leakproof and practically frictionless. No packing glands! No lubrication!
- Compact pressed steel cylinder. Height from center line to top of 2" flanged air-to-close valve, only 9¾"; or air-to-open valve (in open position) only 14⅛".
- Tested up to seven million strokes without sign of wear.
- Operated with air or hydraulic pressures up to 105 lbs. For pressures up to 100 pounds in the line being controlled, only 50 lbs. actuating pressure required under average conditions. No pressure reducing valves needed for pressures up to 105 pounds because of adjustable stem travel stops incorporated in the valve bonnet design.
- Easily adjusted without removing top-works from body.

YOU GET THESE ADVANTAGES IN ANY GRINNELL-SAUNDERS DIAPHRAGM VALVE:

Diaphragm isolates working parts from the fluid, preventing corrosion of these parts and contamination of the fluid; diaphragm lifts high for streamlined flow; diaphragm presses tight for positive closure, even with suspended solids in the line; body, lining and diaphragm materials to meet service conditions; simple maintenance.

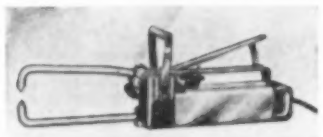
Get the whole story on this and other Grinnell-Saunders Diaphragm Valves. Send for Catalog.

GRINNELL

Grinnell Company, Inc., Providence 1, R. I. Branches: Atlanta • Billings • Buffalo Charlotte • Chicago • Cleveland • Fresno • Kansas City • Houston • Long Beach Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia Pocatello • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

For more details circle NED-8319 on enclosed inquiry slip

PORTABLE SPOT WELDER
features automatic switch control



Model BW self-contained portable spot welder can weld up to ¼-in. combined thickness of mild or stainless steel or two pieces of 16-gage galvanized metal. Automatic switch control eliminates any finger movement and results in minimum of fatigue to operator and uniform welds. Protruding copper welding arms are available in three interchangeable lengths of 6, 12 and 18 in. as well as in variety of special shapes and sizes. When mounted on metal stand, welder becomes stationary model, and pressure is applied through foot pedal. Made by **Greyhound A. C. Arc Welder Corp.**, Dept. NED, 604 Johnson Ave., Brooklyn 6, N. Y.

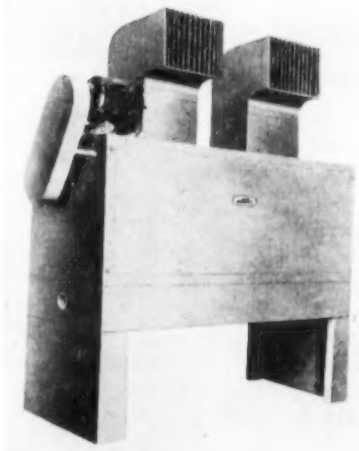
For more details circle NED-8320 on enclosed inquiry slip

TUBE FLARING TOOL
for ¼ to ⅝-in. diameter tubing

Improvements made in model No. 410 combination tube flaring tool include integral flaring pin and vise slide on split die block having series of holes to accommodate five standard tube sizes. Die blocks are now hardened for longer wear, and black wrinkle protective coating replaces cadmium plating formerly used. Flaring pin point has been lengthened so as to handle heavy-wall tubing in ¼-in. size, and vise screw nose has been modified for quick self-alignment with block. Made by **Parker Appliance Co.**, Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

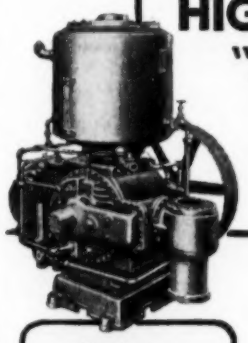
For more details circle NED-8321 on enclosed inquiry slip

UNIT HEATER
blower type will heat large areas



Eight models of this blower type unit heater have capacities ranging from 35,000 to 2,000,000 Btu and 1200 to 33,000 cfm. Heater is composed of basic blower section with heating coil attached. Unit can be rotated to face outlets in any direction and outlet cowls can be attached in any of four positions. Heater can be inverted as well as floor, ceiling or wall mounted. Two-bearing design employs self-aligning flange type bearings mounted outside housing for easy lubrication. Forward-curved blowers assure quiet operation. Blower section is constructed of heavy-gage steel with corrosion-resistant finish. Made by **U. S. Air Conditioning Corp.**, 3316 Como Ave. S. E., Minneapolis 14, Minn.

For more details circle NED-8322 on enclosed inquiry slip



HIGH VACUUM is "SUCKER STUFF" for BEACH-RUSS Vacuum Pumps

- *Faster Pump Down*
- *Lowest Pressures*
- *Highest Efficiency*
- *Longer Service*

Whether it's in chemical processing such as distillation, extraction or impregnation; metallizing or coating; clay deairing, electronic work or vacuum pick-up-and-place, position-and-hold or feeding of sheets, or other vacuum machine operations, Beach-Russ Single Stage Pumps provide the required low pressure fast and steadily. Two types of pumps are available:

Type SS Rotary Pumps for pressure to 5 mm. Hg. absolute on dry and semi-wet work. Capacities—6 to 375 c.f.m.

Type RP Rotary Piston Pumps for pressures to 10 microns Hg. absolute and lower on dry or wet operations. Capacities—17 to 845 c.f.m.

Let Beach-Russ Pumps improve your vacuum operations. Write for Catalog.

BEACH-RUSS CO.
60 Church St., New York 7, N. Y.

For more details circle NED-8323 on enclosed inquiry slip

8 WAYS BETTER THAN FRICTION TAPE*

Check These 8 Extras:

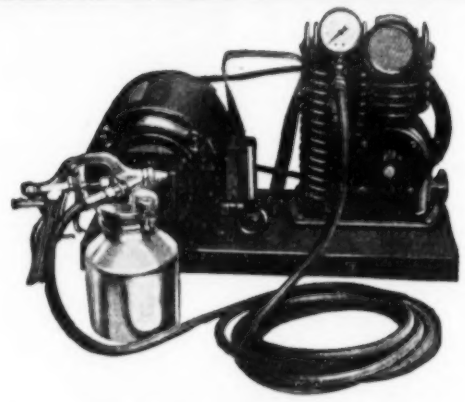
- Higher dielectric strength
- Better moisture barrier
- Less bulk—equal strength
- Higher tack (quick stick)
- Cleaner (doesn't collect dirt)
- Unwinds easily
- Doesn't fray
- Sticks firmly

Now for the first time in over 70 years comes a basic, revolutionary improvement over sticky, old-fashioned friction tape. It's POLYKEN No. 163 Electrical Tape . . . available now through your electrical distributor in three convenient packs. And dependable POLYKEN No. 163 *costs no more* than most ASTM friction tapes. See your distributor or write today for *free* folder "Test It Yourself." Address POLYKEN, Dept. 10-11, 222 W. Adams St., Chicago 6.

Polyken® INDUSTRIAL TAPE — DEPARTMENT OF BAUER & BLACK, DIVISION OF THE KENDALL COMPANY, 222 W. ADAMS ST., CHICAGO 6

For more details circle NED-8324 on enclosed inquiry slip

PUT AIR TO WORK WITH PRESSURE PRINCESS



THIS portable single cylinder, piston type air compressor is a heavy duty, compact unit ideally suited for factory maintenance work. Equipped with spray hose and gun, it cuts time and cost of painting, inside and out. Handles any spray liquid. Compressor can be used for tire inflation and fleet lubrication and is suitable for many industrial purposes.

If your product incorporates an air compressor investigate the adaptability of Pressure Princess.

Write For Literature

THE CAMPBELL-HAUSFELD CO.
193 RAILROAD AVENUE HARRISON, OHIO

For more details circle NED-8325 on enclosed inquiry slip

Cut material and machining costs on stainless steel rings by letting Dresser form and flash-weld them from bar lengths.

Pioneers in making welded stainless rings, Dresser has the specialized equipment and know-how to meet exacting requirements. Sizes 4" to 72" diameter—up to 16 square inch cross section. Send blueprint or sketch with your inquiry.

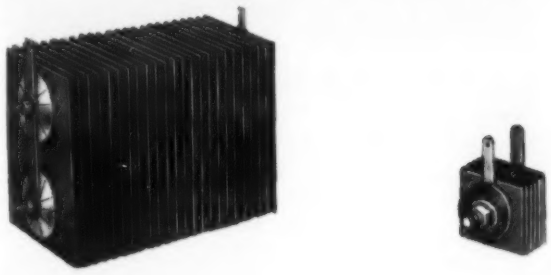
DRESSER RINGS

Dresser Manufacturing Division (One of the Dresser Industries), Bradford, Penna.

For more details circle NED-8326 on enclosed inquiry slip

SYNTRON

SELENIUM RECTIFIERS



Made by a new process to uniform, high quality and capacity.

In extra large cell sizes as well as small cells.

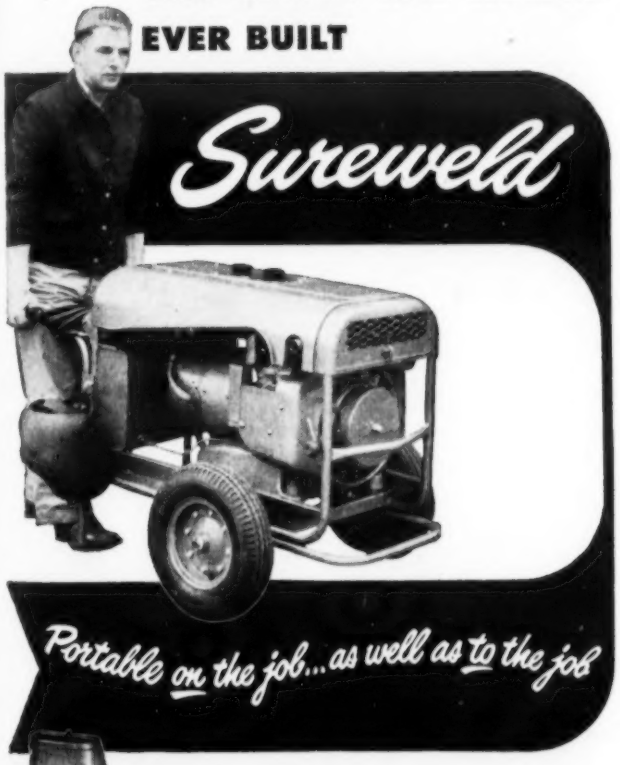
Write for literature

SYNTRON CO.

405 Lexington Homer City, Pa.

For more details circle NED-8327 on enclosed inquiry slip

THE MOST PORTABLE GAS-DRIVEN ARC WELDER EVER BUILT



MODEL HGW-150

Weighs only 365 lbs. Air-cooled gasoline engine. Heavy duty generator. Dual controls. Equipped for emergency lighting.

THIS is the welder that can be used *anywhere* because it's compact, and the lightest-weight gas driven D-C machine ever built. One man can move it easily; two men can lift it.

Yet, it is strong and durable because of a weight-saving air-cooled engine and the extensive use of aluminum. And it has the capacity to do a wide range of welding jobs in construction work, maintenance and repair.

No other machine can match the SUREWELD HGW-150 for portability and performance. And it can quickly pay for itself by cutting welding costs.

Write today for Illustrated Bulletin

NATIONAL CYLINDER GAS COMPANY

846 North Michigan Avenue Chicago 11, Illinois

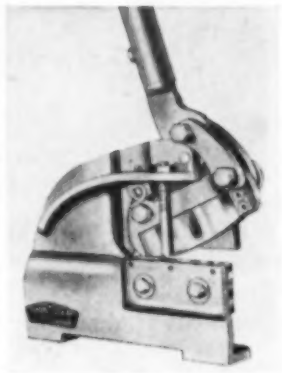
NCG

EVERYTHING FOR WELDING

Copr. 1950, National Cylinder Gas Company

For more details circle NED-8328 on enclosed inquiry slip

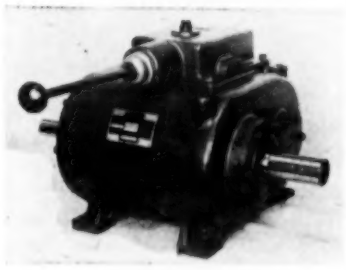
SLITTING SHEAR
upper blade has compound linkage



This portable slitting and trimming shear is produced in three sizes with capacities of 14-gage, 10-gage and 3/16-in. mild steel. Rigidly-braced one-piece frame assures permanent alignment of upper and lower blades for clean cutting action in any metal. Adjustable shoe at pivot point of upper blade gives additional support, and compound linkage provides easy cutting action. Upper and lower blades can be adjusted to compensate for wear and resharpening. High carbon and chrome blades are available for cutting stainless steel. Made by **Beverly Shear Mfg. Co.**, 3001 W. 111th St., Chicago 43, Ill.

For more details circle NED-8329 on enclosed inquiry slip

TRANSMISSION
delivers 20 hp at 900-rpm input

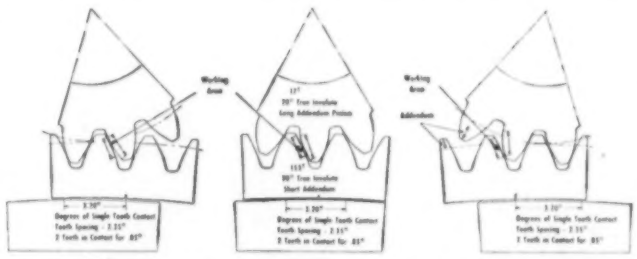


Four speed changes of model 420 transmission are in geometric progression of 1.7 to 1 with 5 to 1 overall ratio. Transmission case is large enough to accommodate special ratios up to 9 to 1. Shaved gears and shafts are heat treated alloy steel. Revolving shafts are mounted on antifriction bearings and case is oil sealed. Made by **Western Mfg. Co.**, 3428 Scotten Ave., Detroit 10, Mich.

For more details circle NED-8330 on enclosed inquiry slip

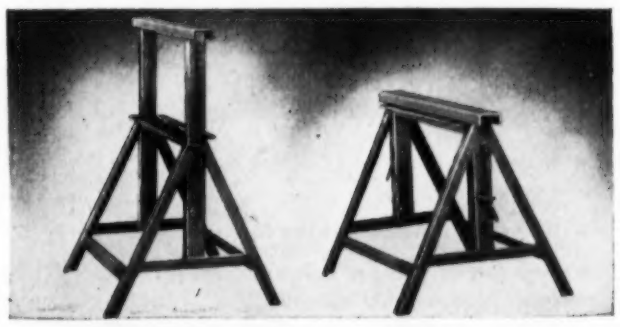
IMPROVED GEARING
distributes wear over greater space

Designed to minimize wear and vibration, this improved gearing replaces 15-degree tooth form and becomes standard on company's grinding mills, kilns, coolers and dryers.



It has tooth profile generated as true involute with 20-degree pressure angle, long addendum pinion and short addendum spur gear. With 75 per cent more tooth area in contact than in previous gearing, wear is distributed over greater space, and increased pressure angle yields 25 per cent stronger pinion tooth per inch of pinion face for given pitch diameter. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-8331 on enclosed inquiry slip



EVERY PLANT CAN USE ADJUSTABLE STEEL HORSES

They are the "work horses" in every plant or shop . . . more than pay for themselves, and are never idle because of the many uses their ready adjustability will easily serve:

SPOT WELDING TABLES	SCAFFOLDING
FABRICATION SUPPORTS	CONVEYOR SUPPORTS
LAYOUT WORK	MAINTENANCE WORK
BENCHES	And many other uses

MODELS FOR HEAVY OR LIGHT WORK

Standard length 36". Low Height 24"; Extended Height 42". Adjustable at 1½" intervals. Held in position by steel lock pins. All units portable. Painted one coat chrome yellow.

IMMEDIATE DELIVERY
Write for full information

Bruno HANDLING EQUIPMENT

BRUMMELER STEEL PRODUCTS CORPORATION

1411 Ionia Ave. S. W., Grand Rapids, Michigan

For more details circle NED-8332 on enclosed inquiry slip

BRADLEYS HELP MAKE THE PLANT..... A GOOD PLACE TO WORK

Adequate facilities for washing are now considered important by managements. Such facilities include sanitary Bradley Washfountains as pictured above.

Bradleys Save Water and Installation Cost

One hot and one cold water supply and one drain are the only connections required for a Bradley that serves up to 10 workers simultaneously.

There are no faucets to touch, the spray of water being supplied by the central sprayhead. Other advantages are explained in our Catalog D-713 . . . Why not write for a copy now . . . BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wisconsin.

BRADLEY washfountains

Write for Illustrated Catalog D-713

Distributed Through Plumbing Wholesalers

For more details circle NED-8333 on enclosed inquiry slip

Star Molyflex Blades eliminate the biggest fault of high speed hack saw blades. *They're completely shatterproof and unbreakable in a frame.* That's true no matter how tough the job may be.

And Molyflex leads the field in cut-ability. Tests prove that Molyflex Blades cut 23.8% better than the average of 8 leading brands of high speed flexible blades.

Your Star Supplier stocks the complete Star line of hand and power hack saw blades, frames and bands.

He also has the handy Star Wall Chart and the useful 32-page booklet, "Metal Cutting". Both are packed with valuable information on blades and cutting techniques. Get your copies today. They're FREE.

CLEMSON BROS., INC. • Middletown, N.Y., U.S.A.

Makers of hand and power hack saw blades, frames, metal cutting band saw blades and Clemson Lawn Machines

For more details circle NED-8334 on enclosed inquiry slip

A New Management-Labor Tool

PENCO-CONDITIONED LOCKER ROOMS

LEARN how Penco-Conditioning improves employee morale, cooperation, efficiency. Send for new 7-color Penco folder showing latest ideas on modern locker-restrooms for industry, service businesses and institutions.

Send FOR FREE FOLDER

PENCO STEEL LOCKERS, SHELVING, CABINETS

PENN METAL Corporation of Penna.
82 Oregon Ave., Phila. 48, Pa.

Gentlemen: *Please send me new folder* No. SE-1

Name _____ Title _____

Company _____

Street _____

City _____ Zone ____ State _____

For more details circle NED-8335 on enclosed inquiry slip

Let this all-purpose

DEWALT

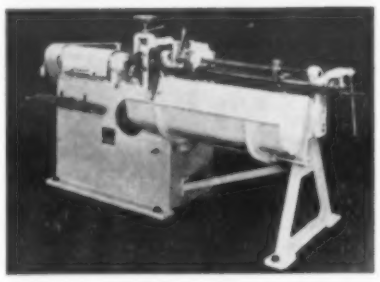
save money in *Your* plant

Here is the ideal, all-purpose machine you need to cut costs and step up production in your plant. DeWalt is *many* machines in one! It dadoes, routs, shapes, tenons, grinds, sands, etc.! It's fast, accurate, safe, dependable. It takes up little floor space—and streamlines all your cutting operations. Write for catalog. DeWalt, Inc., 1211 Fountain Avenue, Lancaster, Penna.

DEWALT INC.
A subsidiary of American Machine and Foundry Co.

For more details circle NED-8338 on enclosed inquiry slip

WIRE STRAIGHTENING MACHINE handles 3/32 to 9/32-in. wire

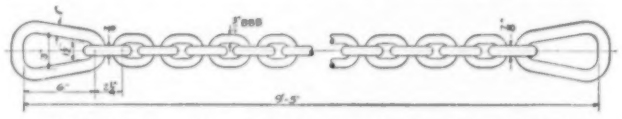


Operating on rotary principle, TKM-6 wire straightening machine is entirely automatic, taking wire from reel into rotating straightening dies. Dies subject wire to repeated rotary bending which removes internal stresses. Wire is fed by pair of transport rollers onto guide bar where it makes contact with stop that actuates cutting mechanism, and design is such that at moment of cutting, feed motion is disconnected so transport rollers will not slide against stationary wire. Rate of feed varies from 56 to 181 fpm, and machine will straighten and cut wire to any length up to 19½ ft. Made by **American Pullmax Co.,** 2629 N. Western Ave., Chicago 47, Ill.

For more details circle NED-8340 on enclosed inquiry slip

BUNDLING CHAINS in 5/8, 3/4 and 7/8-in. sizes

Suitable for bundling bar or sheet steel and pipe; handling timber and boxed or packaged goods; and for securing loads to truck beds, these bundling chains can



be obtained in any desired length to suit application. Chain is of close link style and can be supplied in low or high carbon steel or alloy depending upon size of load to be lifted and type of service. Ends can be furnished with heavier size links, rings or pear-shaped links as desired. Made by **Round Associate Chain Cos.,** 562 Henry St., Cleveland, O.

For more details circle NED-8341 on enclosed inquiry slip

SNOW REMOVAL MACHINE discharges to left or right

Self-propelled Duplex model Snow-Blo is designed with snow discharge spout that can be tipped to throw snow either to operator's left or right. Machine can clear 16-in. path through snow up to 12 in. deep. Snow is scooped up and pulverized by impeller blade and can be thrown up to 40 ft from cleared area. Gear drive transmits power to wheels. Made by **Sensation Mower, Inc.,** 1250 NED St., Ralston, Nebr.

For more details circle NED-8342 on enclosed inquiry slip

ANG Gear TRADE MARK

Standardized RIGHT ANGLE BEVEL GEAR UNITS

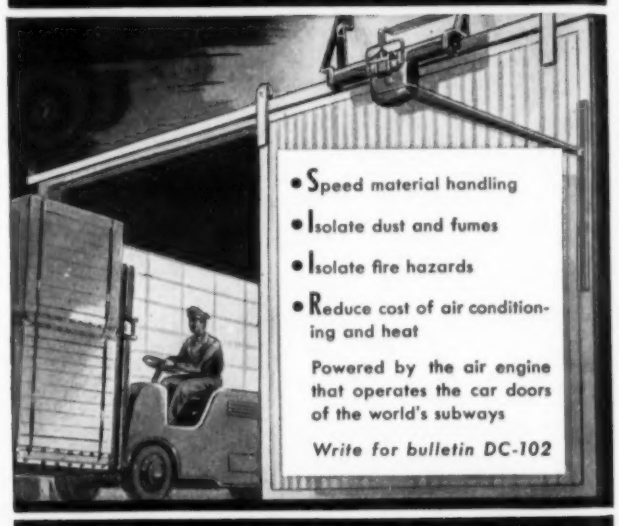
With Capacity of Units Many Times Their Size and Weight

Suitable for use in either manual or power operated systems beyond the limitations of ordinary commercial products. Two basic models meet the requirements of virtually all industrial applications. 1:1 or 2:1 ratio with either 2 or 3 shaft extensions.

AIRBORNE ACCESSORIES CORPORATION
25 MONTGOMERY ST. • HILLSIDE 5, NEW JERSEY
SOLD THRU LEADING DISTRIBUTORS

For more details circle NED-8344 on enclosed inquiry slip

NP PRE-ENGINEERED Pneumatic DOOR OPERATORS



- Speed material handling
- Isolate dust and fumes
- Isolate fire hazards
- Reduce cost of air conditioning and heat

Powered by the air engine that operates the car doors of the world's subways

Write for bulletin DC-102

NATIONAL PNEUMATIC CO., INC.
Boston • Graybar Bldg., New York • Chicago

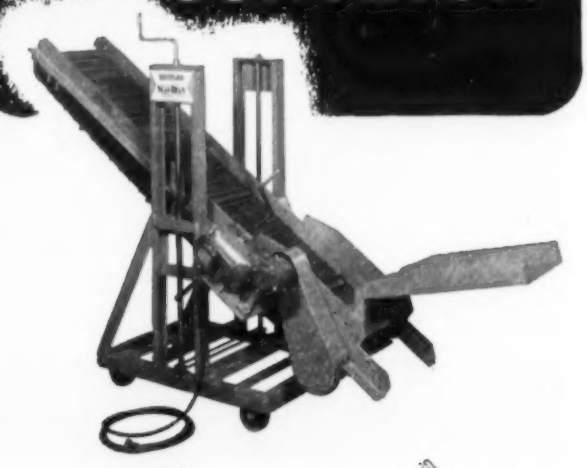
For more details circle NED-8345 on enclosed inquiry slip

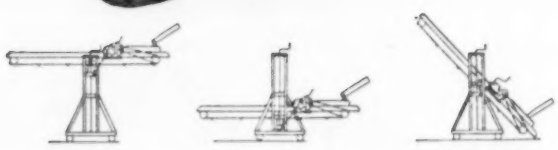
Introducing

LITTLE HUSTLER

NEW PORTABLE ADJUSTABLE

CONVEYOR





INSTANTLY adjustable . . . To handle small metal parts, stampings, sub-assemblies, etc. . . . the LITTLE HUSTLER can be used anywhere in your plant production departments. LITTLE HUSTLERS are recommended especially for diversified applications in which working heights and areas frequently change.

This versatile conveyor unit is applicable also as an auxiliary to permanent conveyor systems, either to feed or discharge.

Double-screw center lift regulates conveyor height through entire 30-inch working range. Pitch is adjusted from horizontal to maximum of 45 degrees by means of crank handle.

LITTLE HUSTLERS feature all-steel welded frame, two swivel and two stationary casters, and charging chute with positive trap. Standard belting is either cleated white cotton or neoprene impregnated.

Belt life is greatly increased in applications involving excessive wear, piercing, or cutting by sharp metal parts with newly developed MAY-FRAN hinged-steel conveyor belting (unit illustrated).

Power units can be furnished to meet individual requirements.

Belt Widths	Conveyor Lengths in Ft.				
12 inches	4	6	8	10	12
18 inches		6	8	10	12
24 inches		6	8	10	12

• Write today for the new MAY-FRAN 8-page, multi-colored catalog for complete price and specification information.

MAY-FRAN ENGINEERING, INC.
1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

For more details circle NED-8339 on enclosed inquiry slip

BRAINS of any air system . . . Schrader Pilot Valves

- they carry through a cycle once they're actuated
- they can be operated by remote control
- they can be timed to deliver air for a predetermined number of seconds
- they deliver line pressure to the point of operation
- they pay for themselves many times over

Schrader Pilot Valves are built in four sizes —3/8", 1/2", 3/4" and 1¼" and in several types, 2 or 3 way, with or without timer.

Novel Pilot Valve Application Saves Water—Do you use spot welders? Then let us show you how pilot valves can be applied to them to control water circulation and save water. Some installations now saving thousands of gallons daily. Consult our engineers.

Write for complete information and literature on Schrader Pilot Valves and Air Cylinders. For data on hundreds of other Schrader Products . . . Press Controls, Air Ejection Sets, Air Line Couplers, etc. write for 72-Page Catalog.

Schrader PRODUCTS CONTROL THE AIR

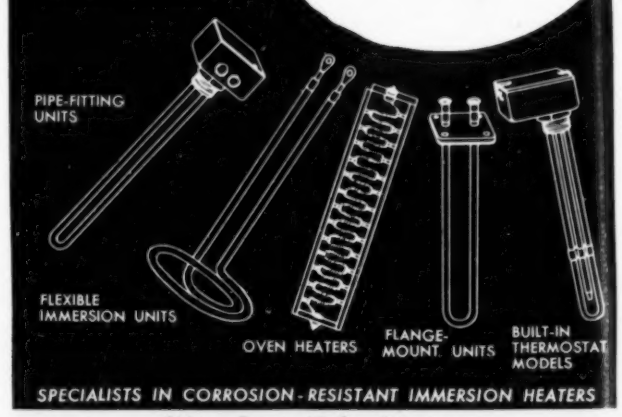
A. SCHRADER'S SON
478 Vanderbilt Ave.
Dept. ND-6, Brooklyn 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

For more details circle NED-8343 on enclosed inquiry slip

THERMALINK Electric HEATING ELEMENTS

OVER 600 STANDARD MODELS & TYPES

IMPROVE YOUR ELECTRICALLY HEATED PRODUCTS AND EQUIPMENT WITH THERMALINK ELEMENTS



SPECIALISTS IN CORROSION-RESISTANT IMMERSION HEATERS

Write Dept. N for Literature

ELECTRO-THERM INC.
8024 GEORGIA AVE., SILVER SPRING, MD.

For more details circle NED-8346 on enclosed inquiry slip

Down Go Cleaning Costs

with

Wear-Resistant FULLER FIBER BROOMS . . .

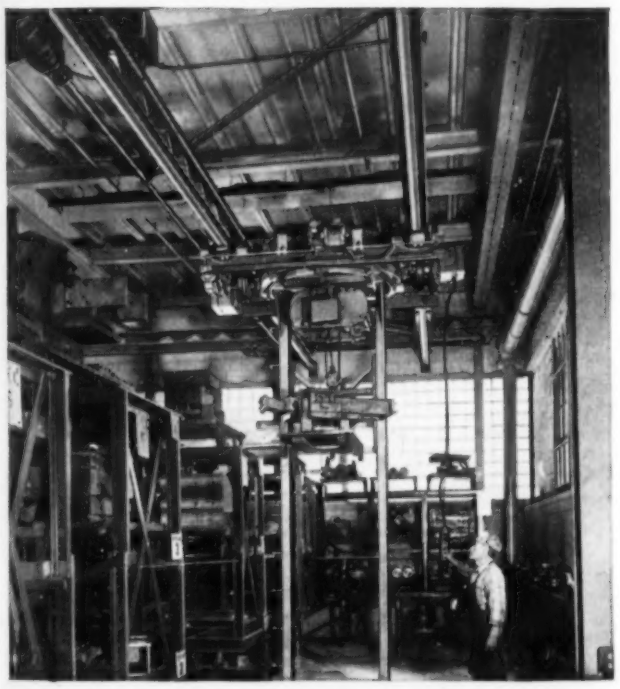
You can reduce your daily cleaning costs with Fuller Fiber Brooms. Grueling wear-down tests by our own Research Department and, more important, the tests performed by our thousands of satisfied customers, prove conclusively that Fuller Fiber Brooms give better service for a longer period of time. We invite comparisons of the wearing qualities of the Fuller Fiber Broom with any other broom under any sweeping conditions. Test it yourself. Phone or write your nearest Fuller Industrial Representative today . . .

SHIPPED FROM NINE DISTRIBUTION POINTS

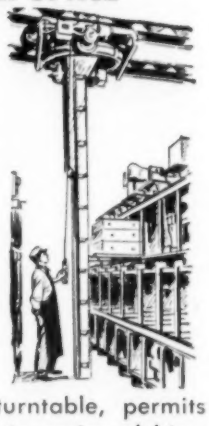
INDUSTRIAL DIVISION
THE FULLER BRUSH CO.
3530 MAIN ST. • HARTFORD 2, CONN.
IN CANADA: Fuller Brush Co., Ltd., Hamilton, Ont.

For more details circle NED-8347 on enclosed inquiry slip

60% MORE DIES NOW STORED



ONE MAN NOW CONTROLS DIE STORAGE WITH 60% MORE DIES STORED IN THE SAME FLOOR SPACE



Without extra building, a large Mid-Western manufacturer of internal combustion engines has solved a difficult die storage problem by installing a Louden Monorail System. Capacity of the storage area has been jumped 60%, "housekeeping" efficiency has been increased, while the labor force has been reduced from several men to one-man control.

The "tiering" trolley, operating on a double-girder crane with turntable, permits easy, accurate positioning of dies in assigned bins. Complete push-button operation allows one-man control. The skid method of handling eliminates damage caused by slings or dropping.

FREE BOOK . . . Case histories of successful Monorail applications. Write for "Economical Material Handling" today.

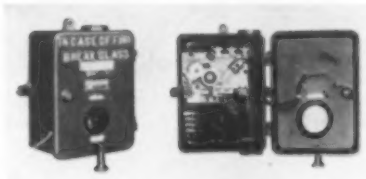
THE LOUDEN MACHINERY COMPANY
200 S. Superior Ave., Fairfield, Iowa

Louden

OVERHEAD MATERIAL HANDLING

For more details circle NED-8348 on enclosed inquiry slip

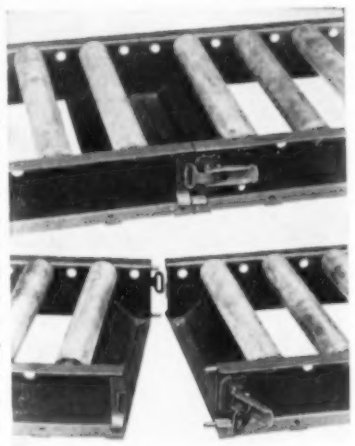
FIRE ALARM BOX
in manual or automatic types



Recommended for industrial plant and institutional use, MAET fire alarm box can be actuated automatically by rate-of-rise or fixed-temperature thermostats or manually tripped by breaking glass. When tripped, four complete rounds of alarm coded to location of fire detection device are transmitted through audible signals of fire alarm system. Responsible personnel hearing code are thus enabled to proceed directly to fire scene without delay. Prewound spring driven mechanism is used, and neon lamp glows until unit is reset. Box is approved by Unerwriters' Laboratories and Factory Mutuals. Made by **Autocall Co.**, 4761 Tucker Ave., Shelby, O.

For more details circle NED-8349 on enclosed inquiry slip

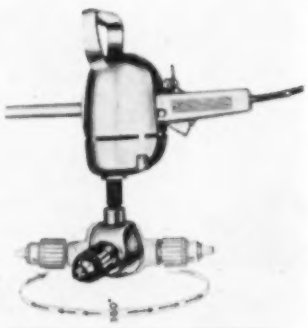
ROLLER CONVEYOR
is of coupled and locked type



Featuring coupling and lock construction, Metalok roller conveyor permits easy and quick attachment of one length to another. It locks them in place with positive grip. Reversible and interchangeable design requires that only curve be turned in order to change directional flow of conveyed material, thus saving time and assuring maximum material delivery. Made by **Blackstone Mfg. Co.**, Steel-Parts Mfg. Div., 4631 W. Harrison St., Chicago 44, Ill.

For more details circle NED-8350 on enclosed inquiry slip

ANGLE HEAD DRILL
portable tool is two-speed type



Model 200 portable electric drill is equipped with two-speed 360-degree angle head attachment and has capacity of ½-in. hole in mild steel and 4-in. hole in soft wood. Two-speed angle head provides 275 rpm for deep boring and 1100 rpm for small hole and lumber drilling. When angle head is removed from spindle, Jacobs chuck can be unscrewed from head and used directly on spindle. All-angle head will also fit any ½-in. portable drill having ½-20 threaded spindle. Made by **Cummins Business Machines Corp.**, Cummins Portable Tools Div., 4770 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-8351 on enclosed inquiry slip

Cut Production Costs . . . Permit Ease of Assembly

HERE'S HOW

- Eliminate skilled labor in key seat cutting and key fitting operations.
- Are easy to assemble because of flat key bottom and starting radius.
- Key reaches deep into shaft and is firmly imbedded, enabling it to withstand greater strain.
- Offer greater resistance to shaft fracture due to shape of key set and permanent key fit.
- Simplify key seat cutting in tapered shafts.

Whitney Woodruff Type Keys are made to American Standard sizes and Whitney Standard sizes for special application. They are available from Whitney distributors throughout the country or write:

WHITNEY CHAIN CO.
203 Hamilton Street, Hartford 2, Conn.

For more details circle NED-8352 on enclosed inquiry slip

WORKS LIKE DYNAMITE!
but a safe cleaner for aluminum

the Original Junk HYDRO-SEAL

world's most powerful solvent for cleaning carbonaceous tars, carbon, paint from pneumatic tools, internal combustion engine parts, diesel injector nozzles, oil burner nozzles, etc.

a Di-Phase solvent
27 times faster than lye

self-emulsifying and self-scouring

extreme solvency—terrific penetration

free of causticity and toxicity —safe to handle

brightens aluminum without etching, loss of weight or dimension

available in 5—30—55 gal. sz. ready-to-use Kits

send for technical data sheet

IMMEDIATE DELIVERY
1 GALLON OR A TANK CAR

CURRAN CORP.
Mfg. Chemists
LAWRENCE, MASS.

For more details circle NED-8353 on enclosed inquiry slip

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE, REDUCES TOOL BREAKAGE

To super finish I. D., add such plus features as blended radius, knurled head, I. D. break, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1060 Broad Street, Newark, N. J., and 5035 Sixth Ave., Kenosha, Wis. Write, call or wire today!

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

For more details circle NED-8354 on enclosed inquiry slip

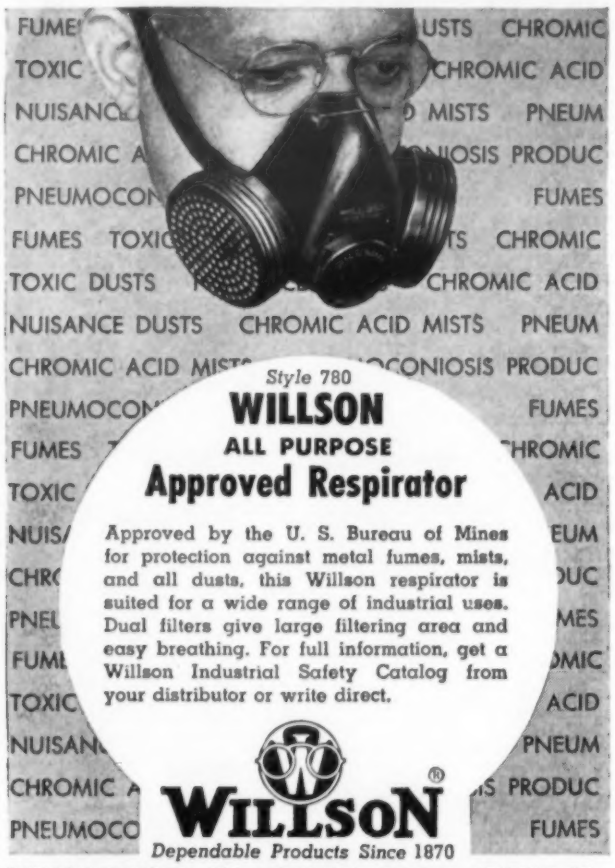
NOW—EXACT WEIGHT Scales for Unknown or Catch Weights . . . .

EXACT WEIGHT Scales announce a complete line of new automatic fan dial scales for unknown or catch weighing—five types and twenty-three models, in capacities from 1 lb to 40 lbs. Equipment is available in both metric or avoirdupois as desired. These scales are manufactured to the same high standards of all EXACT WEIGHT Scales to give you greater accuracy, dependability, and long lasting service in hard industrial use. The new line is highly flexible and adaptable to many varied applications. New literature giving full specifications of all models as to weighing capacity, dial markings, type of commodity holders and beams is ready for mailing. Write for your copy, either for immediate use, or for your files.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

For more details circle NED-8355 on enclosed inquiry slip



WILLSON PRODUCTS, INC., 219 WASHINGTON ST., READING, PA.

For more details circle NED-8356 on enclosed inquiry slip

PULLMAX DOES IT ALL!

PULLMAX

Sheet and Plate Working Machines

Imagine, one machine doing all of these operations—seven models that work the finest gauges up to 11/32" (in mild steel). Also ideal for working stainless, non-ferrous metal, wire mesh. Leaves a smooth perpendicular cut with no further finishing required. Pullmax does it better . . . faster.

WRITE FOR ILLUSTRATED CATALOG

AMERICAN PULLMAX CO., INC.

2629 North Western Avenue Chicago 47, Illinois

For more details circle NED-8357 on enclosed inquiry slip

Asarcon 773 BEARING BRONZE

...IN ANY LENGTH YOU NEED

- Any length required, up to 105". Longer or shorter than 13"... to suit your requirements.
- Always meets SAE 660 Specifications.
- Minimum of wasted short ends.
- No sand or dross to dull tools.
- No soft or hard spots.
- No blowholes or porosity.
- Better fatigue characteristics.
- Greater impact strength, tensile strength, yield strength and hardness.
- National distribution.

Order ASARCON 773 bar bronze in any length you need . . . up to 105".

AMERICAN SMELTING AND REFINING COMPANY

Perth Amboy Plant, Barber, New Jersey

For more details circle NED-8358 on enclosed inquiry slip

PORTABLE ELECTRIC TOOL drills, grinds, sands and buffs

Wide range of operations can be performed with this 6-in. portable electric tool. Packaged with complete set of accessories and wrenches for quick conversion, it is usable for sanding, grinding, wire brushing and polishing. Up to ¼-in. holes in metal and ½-in. holes in wood can be drilled as well as ⅜-in. holes in concrete when equipped with carbide tipped drill. Weighing only 4¼ lb, tool has no-load speed of 1300 rpm. Swivel side handle can be positioned at any point for convenience. Made by **Cummins Business Machines Corp.**, Cummins Portable Tools Div., 4770 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-8359 on enclosed inquiry slip

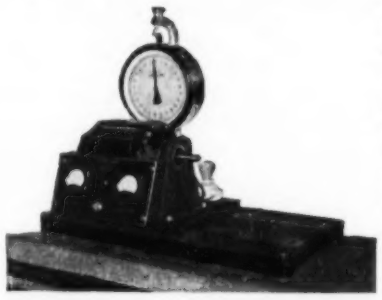
DUST COLLECTORS in exhaust and recirculation types

Driven by 2-hp motor, cyclone type Duskolectors have capacity of 1500 cfm at 5600 fpm velocity. Illustrated model CYO-6 is recommended for exhausting air to outside. Model CYB-6 is of same construction but is fitted with dustproof bag and is adaptable for installations where conditions permit recirculating air. Both have 26-in. diameter base and dust pan capacity of 10,620 in. Overall height is 86 in., inlet size is 6 in. and outlet size is 7 in. Cyclone action is used to separate dirt from air. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo 54F, Mich.

For more details circle NED-8360 on enclosed inquiry slip

SMALL DYNAMOMETER is of fractional horsepower type

Designed to aid in analyzing and demonstrating operation of fractional horsepower motors and generators, improved dynamometer set also permits testing of internal combustion engines and other mechanical equipment of similar rating. It is self-contained unit with extended base to allow for mounting equipment under test. Control panel contains field voltage and armature current instruments as well as field control rheostat and three-way switch for selecting desired resistance loads. Equipment has continuous absorption or motoring rating of ¾-hp at 2000 rpm and maximum safe speed of 4000 rpm. Included in set is 10-in. diameter dynamometer scale graduated in pounds with 0.1-lb subdivisions. **General Electric Co.**, Special Products Div., Schenectady 5, N. Y.



For more details circle NED-8361 on enclosed inquiry slip

Buy DARTS

For Longer Service

This True Ball Joint Makes the Difference

Easy to Tighten! Because of the spherically-ground joint, Dart unions always fit snugly — bronze seat to bronze seat. Moreover, they close easily and stay tight. No need to jam a Dart.

Easy to Uncouple! Darts uncouple easily, too. Seats are unmarred — ready for repeated use.

Practically Indestructible! To ensure the ultimate in protection, both body and nut of a Dart are made of practically indestructible high-test, air-refined malleable iron. One more of the many reasons why Darts are first choice of careful buyers coast to coast.

E. M. DART MFG. CO., Providence 5, R. I.

For more details circle NED-8362 on enclosed inquiry slip

Wheeler GLASS-ENCLOSED FLUORESCENT FIXTURES

FOR SEVERE SERVICE CONDITIONS

DUST-TIGHT and VAPOR-TIGHT

Two popular units, their performance proved in actual operation! DUST-TIGHT for hazardous locations and VAPOR-TIGHT for non-hazardous locations. Easily installed . . . economically maintained!

For complete information write Wheeler Reflector Co., 275 Congress Street, Boston 10, Massachusetts

Wheeler REFLECTOR COMPANY

Lighting Equipment Specialists Since 1881

For more details circle NED-8363 on enclosed inquiry slip

NEW HAND TACHOMETERS with Acceleration and Overspeed Protection

The highly reliable and accurate JAGABI® Hand Tachometers now feature a new device that *minimizes* the harmful effects of occasional and unintentional overspeeding and too-sudden acceleration. This protective device is also available in the JAGABI® Hand Tachograph.

So far as we know, our Jagabi Hand Tachometers are the only centrifugal type speed measuring instruments offered in the U. S. A. with *acceleration and overspeed protection.* You are assured a considerable saving in repair bills and much longer instrument life. Before you buy a hand tachometer, be sure to send for Biddle's prices. Bulletins 35-D and 35-01-D describe outstanding values in seven models for ranges from 25 RPM to 48,000 RPM. Information will reach you by return mail.

JAMES G. BIDDLE CO.

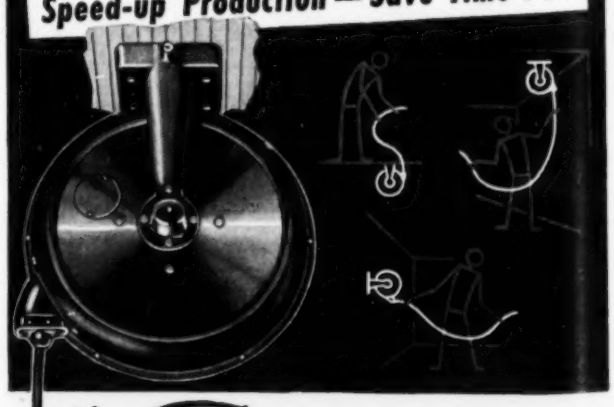
Electrical & Scientific Instruments

1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-8364 on enclosed inquiry slip

Cut Air-Hose Costs — Prevent Accidents

Speed-up Production — Save Time . . .



with CHAMPION AIR-HOSE REELS

FOR CEILINGS—WALLS AND FLOORS

Champion Air-Hose Reels more than pay for themselves in the hose they SAVE. Champion Reels keep hose *off-the-floor,* eliminate the danger of tripping. Air-hose is always convenient to operator . . . a time saver that speeds-up production. Stays put at desired length—a slight pull rewinds hose at governed speed. Fully enclosed reel housing with swivel or stationary mounting. Furnished with 30 or 35 foot hose. Write TODAY for complete data sheet.

2610-R

CHAMPION PNEUMATIC MACHINERY CO.

837 NORTH PLEASANT STREET • PRINCETON, ILLINOIS

For more details circle NED-8365 on enclosed inquiry slip

NO OTHER STEAM GENERATOR COMPARES WITH "POWERMASTER"!

ORR & SEMBOWER *Powermaster*® STEAM GENERATORS

Plant operators in many industries are cutting costs up to 40% through advantages like these:

- Low fuel consumption through high efficiency
- Packaged design saves excessive installation costs
- Automatic operation frees engineer for other duties
- Mounted on steel base—no bricking required
- Delivered fully wired and factory-tested
- Widespread service by factory-trained men

High and low-pressure units—15 to 500 HP.—for light oil, heavy oil, gas or combination gas-oil firing. Free catalog mailed promptly—address:

ORR & SEMBOWER, INC.
930 Morgantown Rd. • Reading, Pa.

For more details circle NED-8366 on enclosed inquiry slip

Thousands of Plants use AMERICAN STANDARD man-sized wet-mops, sweep mops and applicators exclusively. Ordinary household types are too fragile in construction, too slow in use, too costly in labor.

for both ROUGH and smooth floors

MONEY-BACK GUARANTEE

The new DURA-SORB mophead is revolutionary! Order some and discover for yourself that spun-cellulose DURA-SORB is vastly superior in performance to any other wet-mop—or *your money back!* . . . An independent laboratory report proves DURA-SORB's overwhelming advance over all other mops, regardless of price, material and form . . . Ask for illustrated DURA-SORB folder of details.

"BIG X" SWEEP MOP

This sweep mop is our leader. Snatches up dust on contact. It's nationally famous. A durable giant—available in widths up to 5 feet! Can be removed from the block for washing . . . Once you try BIG X, you'll use no other.

HOLZ-EM APPLICATOR

You'll enjoy the fast, thorough performance of this luxurious, high-speed applicator. Reduces cost of applying wax, seals, varnish, etc. More professional floor finishers use HOLZ-EM than any other applicator.

VICTORY WET MOP

For years our biggest seller. Thousands of maintenance men will use no other. Heavy-duty, quality yarn . . . Your best bet, if you want a cotton mop of extraordinary durability, performance and economy.

Order AMERICAN STANDARD products from your regular supplier. He has them—or can get them for you. If not, write direct.

"TOPS IN MOPS"
AMERICAN STANDARD MFG. COMPANY
Incorporated 1908
CHARLES E. KREBS and WALTER O. KREBS
2516 S. GREEN STREET • CHICAGO 8, ILL.

For more details circle NED-8367 on enclosed inquiry slip

ALL-STEEL PALLETS can carry in excess of 10 tons

Designed so that they will nest one into another for conserving warehouse space and expediting ship-and-return work, Nesteel pallets allow four-way fork lift entry and have adequate perforations for banding or tieing load to pallet. Lightness in weight facilitates handling by one man, and nesting feature prevents slipping when crane-handled. They can be obtained in variety of gages and sizes to fit specific requirements. Made by **Powell Pressed Steel Co.**, Hubbard 12, O.

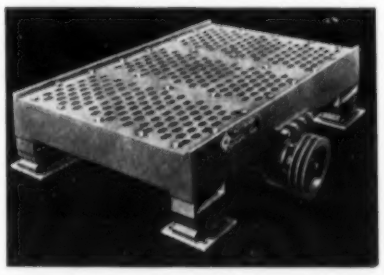
For more details circle NED-8368 on enclosed inquiry slip

STRADDLE CARRIER designed for severe service

Capable of handling 45,000-lb loads, series 100 straddle carrier can travel up to 33 mph forward or reverse. It is powered by heavy-duty six-cylinder 140-hp gasoline engine, employs 14-in. single plate nonshock loading clutch, four-wheel hydraulic steering, four-wheel hydraulic brakes mounted in wheels and either 13.00 x 20 or 14.00 x 20 pneumatic tires. Full vision design conforms with latest highway safety requirements. Its construction and ample reserve power recommend it for steel mill and similar industrial use. Made by **Ross Carrier Co.**, 745 Miller St., Benton Harbor, Mich.

For more details circle NED-8369 on enclosed inquiry slip

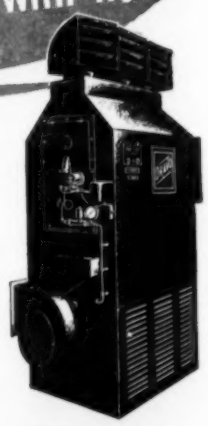
FOUNDRY SHAKEOUTS in capacities from 2000 to 5000 lb



Small general-purpose Foundromatic two-bearing shakeouts have simplified mechanism which can be quickly and easily removed from shakeout body. Unit can be installed with deck horizontal or sloped for discharging duty. Drive shaft extends on one side only and requires just one dust seal. Sheave is eccentrically bored to compensate for amplitude of vibration so that operating amplitudes are not transmitted to motor. Unit incorporates bottom plates on rubber mountings for bolting machine to foundation, baffle plates for diverting sand toward center of collecting hopper and transverse stiffeners in body for deck support. Optional equipment includes portable bases, high side skirt boards, skid bar type decks and various punched perforations up to 2 x 4 in. on deck plate. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-8370 on enclosed inquiry slip

MOST HEATING METHODS *End up* BY WARMING THE AIR
WHY NOT *BEGIN* WITH IT?



You can eliminate waste by warming the air right where it's to be used, without employing water or steam as intermediaries. Use

DRAVO *Counterflo* HEATERS

No "conversion" losses, the heater warms the air, and the positive, directed circulation floods the working zone with warmth. Burns oil or gas as fuel—can be readily converted from one to the other. Low fuel cost—80 to 85% efficiency. Low installed cost—users report 50 to 66% less investment than in standard wet type heating systems. Immediate delivery, quick, easy installation, no delays due to pipe shortages. Thousands of successful installations. Write for Bulletin CI-523-3

DRAVO CORPORATION
DRAVO BUILDING, PITTSBURGH 22, PA.
Sales Representatives in Principal Cities
Mfd. and Sold in Canada by Marine Industries., Ltd., Sorel, Quebec

For more details circle NED-8371 on enclosed inquiry slip

For That NEW Transmission Problem—Better Consider

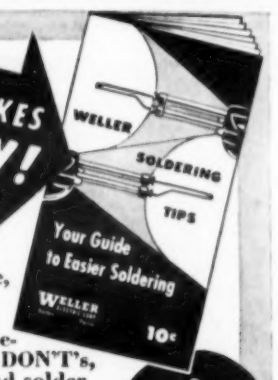
the advantages of using ROCKFORD engineered-to-the-job CLUTCHES. Whether single or double plate, or multiple-disc type, they conserve both power and space because they deliver maximum torque with minimum size and weight, and fit compactly into product, design. Send a sketch or print of your new transmission for our engineers' recommendations covering the size and type ROCKFORD CLUTCH that will meet the needs of your product exactly.

ROCKFORD
Power Take-off
CLUTCHES

ROCKFORD CLUTCH DIVISION
BORG-WARNER
312 Catherine Street, Rockford, Illinois

For more details circle NED-8372 on enclosed inquiry slip

THIS HANDBOOK MAKES SOLDERING *EASY!*

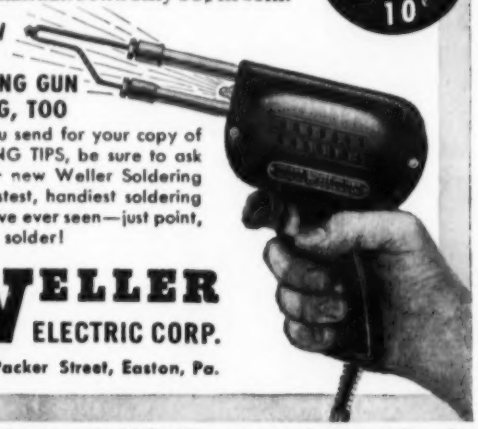


Learn the soldering tricks of experts—*without* any hard study. This revised and up-to-date, 20-page handbook leads you step-by-step to real soldering skill. Time-saving methods, DO's and DON'T's, difficult operations, flux and solder tables, all made clear by 43 easy-to-understand illustrations. NOT a catalog, but a real professional's pocket manual. Send only 10¢ in coin.

SEND NOW... ONLY 10¢

GET NEW WELLER SOLDERING GUN CATALOG, TOO

When you send for your copy of SOLDERING TIPS, be sure to ask about the new Weller Soldering Guns. Fastest, handiest soldering tools you've ever seen—just point, pull, and solder!



WELLER ELECTRIC CORP.
809 Packer Street, Easton, Pa.

For more details circle NED-8373 on enclosed inquiry slip

New Data Book

ON STAINLESS AND HEAT RESISTING STEELS

- This 133-page book contains engineering information on the selection and fabrication of Carpenter Stainless and Heat Resisting Steels to meet specific requirements.
- The Check List for Ordering Stainless Steel starting on page 15 may help you find new ways to *pay less* for the Stainless you use.
- To get your copy, return the coupon or write a note on your company letterhead, indicating your title.

THE CARPENTER STEEL COMPANY
118 W. BERN STREET, READING, PA.

Please send my copy of "Working Data for Carpenter Stainless & Heat Resisting Steels"—

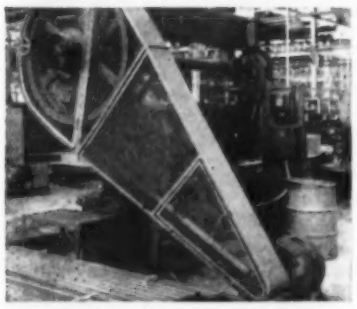
NAME ..... TITLE .....
(PLEASE PRINT)
COMPANY .....
(FIRM NAME MUST BE GIVEN)
ADDRESS .....
CITY ..... ZONE ..... STATE .....

For more details circle NED-8374 on enclosed inquiry slip

TRUSCON EXPANDED METAL

the steel for a thousand plant services

● Truscon Expanded Metal is a diamond mesh fabric expanded into flat sheets from a solid plate of low carbon open hearth steel. The steel is cut and drawn so that regular, symmetrical diamonds are formed with uniform strands. Truscon Expanded Metal is furnished plain, painted, enameled, bonderized or galvanized. Suggested uses—to mention a few: tree boxes, refuse burners, hot air registers, air filter containers, louvers, waste baskets, radiator covers, truck body enclosures and machine guards.



Write for Sales Bulletin No. B-420 for a description of the types and properties of Truscon Expanded metal.

TRUSCON Steel Company
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

▲ For more details circle **NED-8376** on enclosed inquiry slip ▲

JUST 7 INCHES HIGH

THE DUFF-NORTON
"Shorty" JACK
LIFTS HEAVY LOADS IN LOW HEIGHTS

Yes . . . the new "Shorty" Jack is just 7" high and weighs only 22 lbs.—yet it will lift heavy loads weighing up to 15 tons. Note the low height application at left in which 3 jacks were used.

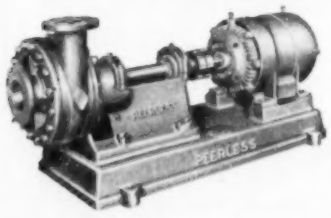
Write today for Bulletin AD-10.H

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA. Canadian Plant: TORONTO, ONT.
"The House that Jacks Built"

▲ For more details circle **NED-8377** on enclosed inquiry slip ▲

PUMPS...Centrifugal, handle clear or sludgy corrosive liquids

***Available from* PEERLESS PUMP DIVISION**
Food Machinery and Chemical Corporation



Two types of single-stage, end-suction Peerless centrifugal pumps are now available to efficiently handle clear or sludgy liquids. Type C for clear, corrosive liquids is of the enclosed impeller type, while Type CO features an open impeller to permit the pumping of fluids up to 750° F. with solids in suspension, brines, sludges, etc. Both types, which are identical in outside appearance, are available in sizes to handle from 10 to 1200 g.p.m. against heads to 231 feet with maximum working capacity of 150 pounds. These specially designed pumps are available with, or adaptable to most forms of drive. Both Type C and Type CO are completely described in Bulletin 810.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Factories: Los Angeles, California, and Indianapolis, Indiana
Offices: New York, Atlanta, Fresno, Los Angeles, Chicago, St. Louis, Phoenix; Dallas, Plainview and Lubbock, Texas.

▲ For more details circle **NED-8378** on enclosed inquiry slip ▲

HAND TACHOMETER
is acceleration-overspeed protected

Special clutch device on Jagabi centrifugal tachometer minimizes possibility of damage resulting from use of low speed range for high-speed spindle. This friction coupling also reduces effects of occasional or unintentional excessive acceleration and overspeeding. Tachometers are available in one, three and five ranges for speed measurement from 25 to 48,000 rpm. Made by **James G. Biddle Co.,** Dept. No. 35-01-23, 1316 Arch St., Philadelphia 7, Pa.

▲ For more details circle **NED-8379** on enclosed inquiry slip ▲

BUNSEN BURNER
has fingertip on-off flame control

Designed to produce flame only when needed, Touch-O-Matic Bunsen burner provides full flame as hand or finger touches control platform. When hand is removed, flame goes out, leaving only low-burning pilot. For continuous flame, platform is depressed and turned slightly. Draft guard that can be rotated in any direction shields pilot and keeps main flame burning steadily. Burner has adjustable air intake and valves for natural, manufactured, mixed or bottled gas. Standard rubber tubing from ¼ to 5/16-in. ID is accommodated by serrated inlet connection. Made by **Hanau Engineering Co.,** 1215 Main St., Buffalo 9, N. Y.

▲ For more details circle **NED-8380** on enclosed inquiry slip ▲

INDUSTRIAL WORK GLOVE
has all-leather protective thumb

Suitable for heavy materials handling in industrial plants, this all-purpose work glove features protective wing-type leather Dura-Thumb. One continuous seam on back of thumb assures long life for glove and eliminates seams on front where thumb meets palm. Made of chrome-tanned side-split pearl gray cowhide with striped herringbone flannel back, glove has water-resistant cuff which can be dry cleaned. It is Gunn cut with seams on back of all fingers, and heavy elastic band is used for form fitting around wrist. Glove can be obtained in two types: Wing-King with 4½-in. gauntlet or Super B with 2½-in. safety cuff. Made by **Richmond Glove Corp.,** 603 North D St., Richmond, Ind.

▲ For more details circle **NED-8381** on enclosed inquiry slip ▲

LAZY LIQUIDS
KEPT ON THE MOVE

Maybe it is Asphalt, Rosin, Wax, Sulphur, Syrup or some other LAZY Liquid. Heat them and they flow more readily. Heat the pipes that convey them also—and they continue to flow.

Steam, Hot Water, or Hot Oil circulated through Jacketed Piping and Fittings will do just that. Keep these otherwise lazy liquids on the move.

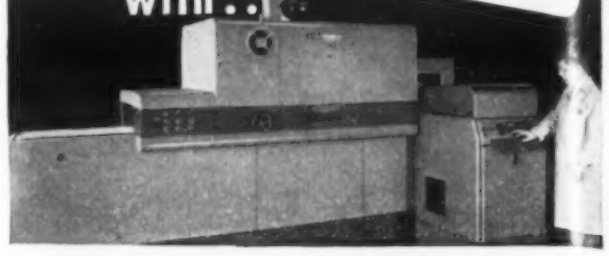
Parks-Cramer Jacketed Pipes come in sizes 1¼", 1½", 2", 3", and 4"—inside dimensions. Jacketed fittings include: two- and three-way Plug Cocks, Tees, 90° and 45° Elbows, Crosses, Expansion Joints and Relief Valves.

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

▲ For more details circle **NED-8382** on enclosed inquiry slip ▲

Unusual Drying Problems Solved with...

Allis-Chalmers Dielectric Heaters



FAST, UNIFORM DRYING of many products is possible with Allis-Chalmers dielectric heaters. In many processes you end overbaking, burning of thin sections, and case hardening of outer layers. Often dielectric heating is the *only* solution to a drying problem requiring speed, or uniformity.

Continuous conveyors can carry the material between the electrodes for drying. Space requirements are small. Drying takes only a few minutes.

Get engineering and cost studies from your nearby Allis-Chalmers Sales Office, or write direct.

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS. A-3001

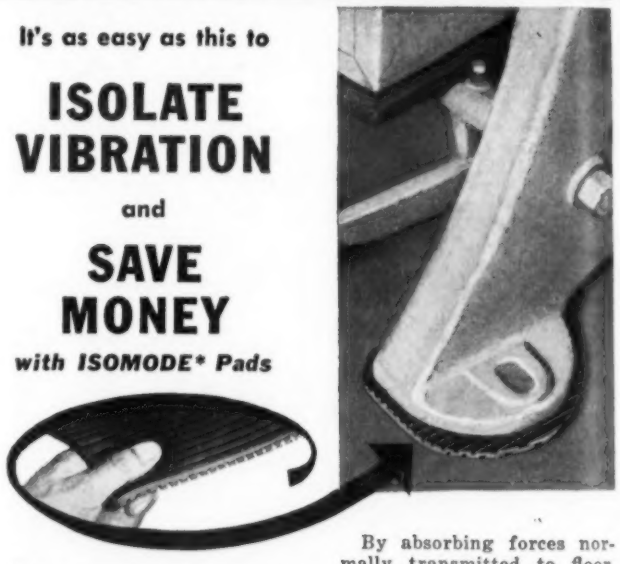
ALLIS-CHALMERS

▲ For more details circle **NED-8383** on enclosed inquiry slip ▲

It's as easy as this to

ISOLATE VIBRATION and SAVE MONEY

with ISOMODE* Pads



Here's the durable mounting to absorb shock...reduce noise ...cut your maintenance costs. In hundreds of installations, the Isomode Pad has proved to be not only one of the most economical mounts, but also one which does a superior job of isolating vibration.

By absorbing forces normally transmitted to floor, Isomode Pads reduce building damage and undue deterioration of machinery. No bolting in most cases.

Made of oil, age- and water-resistant Du Pont Neoprene. Write for details—discover their surprisingly low cost.

**Trade Mark Reg. U.S. Pat. Off.*

THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

▲ For more details circle **NED-8384** on enclosed inquiry slip ▲

Kester Solder

Kester makes over 100,000 different types and sizes of flux-core solders. Kester solders are made only from newly mined grade A tin and virgin lead.

Preferred

Kester Solders are not only preferred by industry, but individual workers also insist upon Kester to enable them to do their best work.

Saves Time

Contact Kester's Technical Department on your soldering problems. There is no obligation.

KESTER SOLDER COMPANY
4201 Wrightwood Avenue
Chicago 39, Ill.
Newark, N. J. Brantford, Can.

KESTER SOLDER

SEND FOR FREE MANUAL:
"SOLDER AND SOLDERING TECHNIQUE"

▲ For more details circle **NED-8385** on enclosed inquiry slip ▲

TOE CONTROL ELIMINATES KNEE ACTION

Electric foot switch cuts operator fatigue.

HEAVY SHEARING MADE EASY

If you have spent a day at a shear with the old mechanical foot treadle, you know what knee action is. As the hours roll by it grows more and more tiresome, fatiguing, and production slips accordingly.

Steelweld has done something about it. Electric foot switches have been adopted as standard equipment. Knee action has been replaced by fast easy toe control.

Steelweld Shears are in a class by themselves. Sizes for cutting 1/8" to 1-1/2" plate to 18'-0" long.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6627 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

For more details circle NED-8386 on enclosed inquiry slip

EXTRA FAST, EASY *Pipe Reaming* ON 1/8" TO 3" PIPE

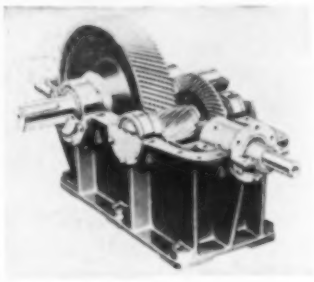
And RIGID LonGrip Reamers Won't Flare or Split Pipe

• It's the extra-long-taper on RIGID LonGrip reamer that makes it smooth the burr cleanly out of pipe or conduit almost without effort. Just a few light ratcheted strokes and your job's done—no worry about thinning, flaring or splitting. Saves your time, work and *pipe*. Furnished complete with ratchet handle, or No. 2 reamer unit sold separately for use in RIGID OOR small ratchet die handle. Two sizes, No. 2, 1/8" to 2"; No. 3, 3/8" to 3". Ask your Supply House.

RIGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

For more details circle NED-8387 on enclosed inquiry slip

SPEED REDUCERS available in parallel shaft and two right-angle styles



Featuring precision-cut herringbone double-helical gears, line of speed reducers includes sleeve or roller bearing designs. Right-angle horizontal, illustrated, and right-angle vertical drives have spiral bevel precision-cut helical gears. Latter has integral oil pump to assure positive lubrication of all surfaces subject to wear.

Parallel-shaft sleeve-bearing reducers accommodate input speeds up to 1750 rpm and higher, have minimum ratio range of 2.22:1 and maximum of 300:1 and are available in horsepower range of 15 to 2000 hp. Roller bearing models have same ratings except that power range is 15 to 1500 hp.

Right-angle horizontal speed reducers offer minimum ratio range of 1.5:1 and maximum of 515:1 in approximate power range of 15 to 1500 hp. Ratio range of right-angle vertical models is minimum of 5.7:1 and maximum of 430:1, with power range of 15 to 1000 hp. Both units operate with input speeds of 1750 rpm and higher if necessary. All models feature mechanical efficiency of 96 to 98½ per cent which is constant throughout life of gears. They are rated according to standards of AGMA. Made by **Falk Corp.**, 3017 W. Canal St., Milwaukee 8, Wis.

For more details circle NED-8388 on enclosed inquiry slip

WEIGHT RECORDING UNIT can be located remotely to translate and print weights

Consisting of take-off unit mounted as part of dial housing, servo-amplifier and recorder unit remotely connected to take-off by cable, Teleprint weight recording unit is intended for use with Tape-Drive dial scales. It combines electronic, electrical and mechanical components to 'read' scale dial and convert it to weight-printings set up on type wheels for impression on wide variety of tickets and forms.

With take-off and recorder mechanisms designed as separate units, recorder can be located 500 ft or more away from scale site and mounted on desk or portable stand. Recorder print button circuit can be extended to conveyor line or lever system so that passing of boxes or loading of hoppers and tanks can register desire to print. Weight is automatically recorded when scale comes to balance. Made by **Howe Scale Co.**, 600 Strongs Ave., Rutland, Vt.

For more details circle NED-8389 on enclosed inquiry slip

Cut Costs

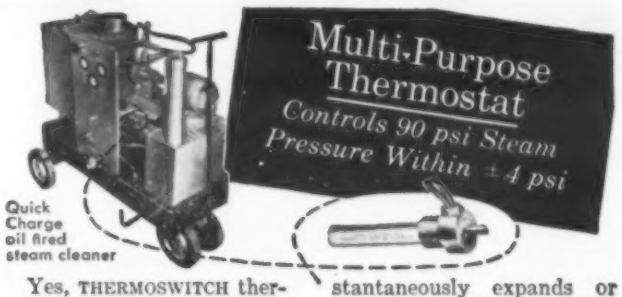
Save Time and Money in Your MASKING for
• SPRAY PAINTING
• PLATING
• SAND BLASTING
with PRE-CUT QUIK-MASKS

Brady QUIK-MASKS are the answer to your masking problem! Pre-cut to exact size and shape, they stick to any surface without moistening. Protect your nameplates, machined parts, threads, holes, etc. and *completely eliminate* costly hand-cutting, use of stop-off materials, and expensive metal shields. QUIK-MASKS are made from "Scotch" Brand Masking Tapes — they can be applied fast, then when finished, they can be removed in a flash! Low-cost Brady QUIK MASKS will bring you immediate savings! Try circles, squares, rectangles from many sizes in stock or have your needs met with tailor-made QUIK-MASKS.

Write today for useful literature and Free Samples

BRADY—MILWAUKEE CO.
212 West Washington Street, Milwaukee 4, Wisconsin — Division of W. H. Brady Co., Chippewa Falls, Wisconsin

For more details circle NED-8390 on enclosed inquiry slip



Yes, THERMOSWITCH thermostats maintain a 90-pound psi pressure thermostatically within plus or minus 4 psi — for portable steam cleaners made by Quick Charge Inc. These powerful cleaners convert cold water into steam within two minutes, at the rate of 80 gallons per hour. Due to the sensitive, dependable response of THERMOSWITCH units, steam pressure in the cleaners is rigidly controlled thermostatically.

THERMOSWITCH thermostats are unique. Their activating element is the single-metal shell that instantaneously expands or contracts with temperature change, making or breaking the electrical contacts enclosed within it.

Used in a wide variety of applications throughout industry, these THERMOSWITCH controls can help you, too.

FENWAL INCORPORATED
811 Pleasant Street, Ashland, Mass.
111 S. Burlington Ave., Los Angeles 4, Cal.
TEMPERATURE CONTROL ENGINEERS
Write for Bulletin

Fenwal

THERMOSWITCH®
The Precision, Multi-Purpose, Industrial Thermostat
SENSITIVE... *but only to heat*

For more details circle NED-8391 on enclosed inquiry slip

Sleeve Bearings *Made to Order*

JOHNSON BRONZE engineers will help you decide which type bearing is best suited to your application and will design it. Material properties, lubricants, hydrodynamics, load, speed, temperatures and other considerations will be carefully studied. Satisfactory bearing performance in many installations is the result of such study of operating conditions and expert engineering. Consultation with these specialists has proved invaluable to other manufacturers.

WRITE for an appointment—no obligation

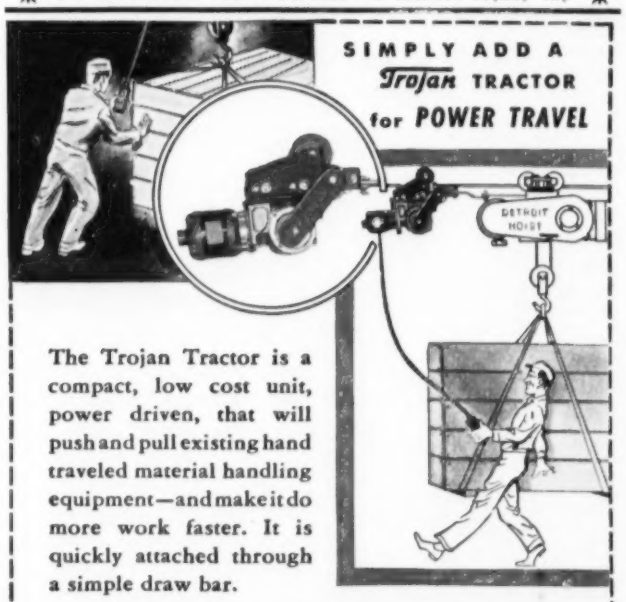
BRONZE and BABBITT

STEEL and BABBITT

CAST BRONZE *Plain or graphited* — LEDALOYL *Self-lubricating* — THIN WALL BEARINGS *Plain or graphited*

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
580 SOUTH MILL STREET • NEW CASTLE, PA.

For more details circle NED-8392 on enclosed inquiry slip



SIMPLY ADD A *Trojan* TRACTOR for POWER TRAVEL

The Trojan Tractor is a compact, low cost unit, power driven, that will push and pull existing hand traveled material handling equipment—and make it do more work faster. It is quickly attached through a simple draw bar.

THE TROJAN TRACTOR PRICES BEGIN AT $360

Bulletin 810 tells more about the Trojan; fill in your company name, address, and send in this advertisement for a copy.

DETROIT HOIST & MACHINE CO.
8247 MORROW ST. • DETROIT 11, MICH.

Company_____

Address_____

For more details circle NED-8393 on enclosed inquiry slip

STURTEVANT DUSTLESS BLENDERS

Thoroughly Blend Substances into an Inseparable Mass

The 4-Way Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 75 tons per hour. Write.

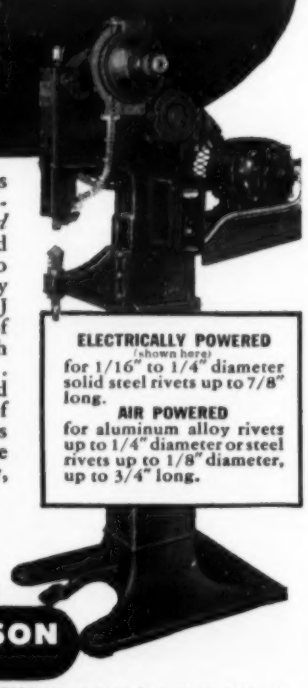
STURTEVANT MILL COMPANY
114-A CLAYTON STREET, BOSTON 22, MASS.

For more details circle **NED-8394** on enclosed inquiry slip

---

Top Speed with **T-J RIVITORS**

. . . Automatically Feeds and Sets Solid Rivets!



On countless assembly jobs today—T-J RIVITORS are doing the rivet setting *faster and better!* T-J feeds and sets solid rivets *automatically* . . . no manual rivet handling . . . easy for women operators. T-J produces a solid rivet joint of 10% to 15% greater strength—a completely filled hole . . . no flashing . . . a neat, balanced head. Handles many types of rivets . . . saves labor . . . cuts costs! Write for bulletin. The Tomkins-Johnson Company, Jackson, Michigan.

ELECTRICALLY POWERED (shown here) for 1/16" to 1/4" diameter solid steel rivets up to 7/8" long.

AIR POWERED for aluminum alloy rivets up to 1/4" diameter or steel rivets up to 1/8" diameter, up to 3/4" long.

T-J ..FOR TOUGH JOBS
TOMKINS-JOHNSON RIVITORS

For more details circle **NED-8395** on enclosed inquiry slip

---

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each — gives up to 2000 readings

it's this simple:
- Select the **Tempilstik°** for your working temperature.
- Mark your workpiece with it.
- The **Tempilstik°** will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)						
113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

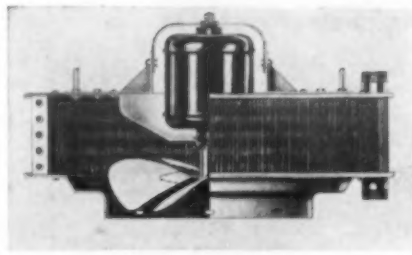
FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

For more details circle **NED-8396** on enclosed inquiry slip

---

PROJECTION UNIT HEATER has capacity of 451,000 Btu



Offset roll added to bottom of this model No. 275-P 35-in. fan projection unit heater provides rigidity and improved appearance. Only motor and housing brackets protrude beyond top of unit, and motor can be removed through top or through discharge orifice. Louver Cone diffuser has fingertip adjustment which makes it possible to send air in infinite variety of patterns from ceiling to spot in shop, factory or office where it is needed. Other models can be obtained with capacities ranging from 55,300 to 550,000 Btu. Made by **Trane Co.**, 2018 Cameron Ave., La Crosse, Wis.

For more details circle **NED-8397** on enclosed inquiry slip

---

PLASTIC-IMPREGNATED GLOVE is waterproof

Abrasion, acid and alkali resistance are features of form-fitting Plastiglov. Plastic-impregnated coating has high tensile and tear strengths as well as heat and flame resistance. All standard sizes are available in red, amber, green and black colors. Made by **American Rubberizing Co.**, Dept. NED, 617 Eleventh Ave. S., Minneapolis, Minn.

For more details circle **NED-8398** on enclosed inquiry slip

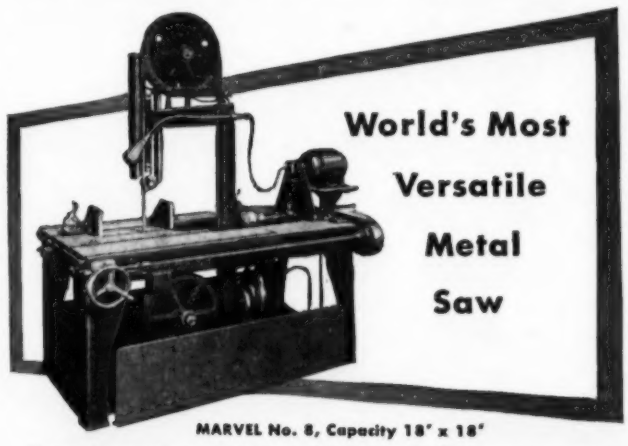
---

ELECTRIC LIFT TRUCK has improved maneuverability

This improved Load-Mobile electric lift truck features 'high-low' switch that expedites its operation in close quarters. When button is at low, truck moves at slow speed regardless of position of operating pedal. When button is at high, operator controls speed either high or low by foot pedal. Spring-mounted casters have been added to increase stability and normally clear floor, but when truck tilts as in making sharp curve, heavy springs right it promptly. Other design changes include operating brake with heavy roller chain instead of enclosed cable and location of hydraulic lifting mechanism at front end of hood where it is less likely to be damaged in transit over rough floors. Truck can be obtained as lift type for conventional skid platforms, as pallet type for handling double-faced pallet, as freight and pick-up truck and as tractor. Made by **Market Forge Co.**, 54 Garvey St., Everett 49, Mass.

For more details circle **NED-8399** on enclosed inquiry slip

---



World's Most Versatile Metal Saw

MARVEL No. 8, Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

MARVEL Metal Cutting SAWS — Better Machines—Better Blades

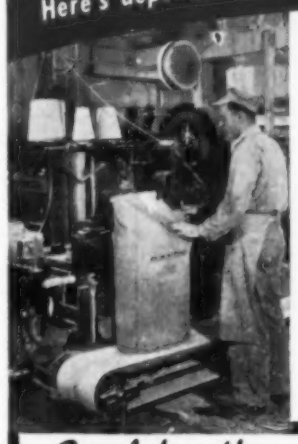
ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

For more details circle **NED-8400** on enclosed inquiry slip

---

UNION SPECIAL

Here's dependable, high speed bag closing . . .



to help you cut plant costs

At today's high operating costs, you can't afford to have inefficient production methods in your plant. That's why it pays to take advantage of Union Special's faster, more dependable, more economical bag closing equipment. For recommendations, see or write your local Union Special representative.

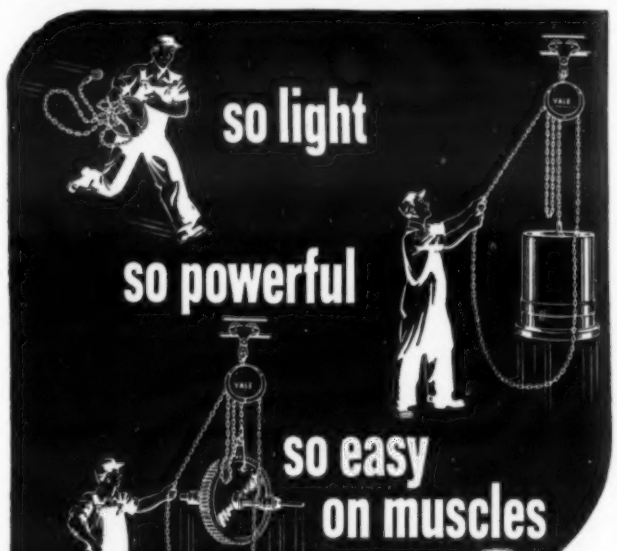
Send for this New Bulletin

Use this new 16 page illustrated bulletin to quickly select the right machine for the job. Ask for Bulletin No. 200.

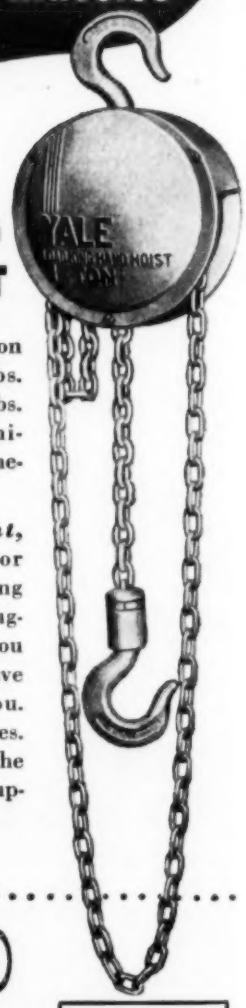
Union Special Machine Company
416 N. Franklin St.
Chicago 10, Ill.

For more details circle **NED-8401** on enclosed inquiry slip

---



YALE LOAD KING HAND HOIST



Compact, portable — ½-ton model weighs only 37 lbs. Fast, powerful—lifts 1000 lbs. 3 feet in 20 seconds. Minimizes muscle effort—it's a one-man hoist.

Big plant, little plant, machine shop, foundry or garage—the Yale Load King Hand Hoist has all the rugged lifetime efficiency you want—and more. Let it save work and money for you. Ask for details and prices. Write direct—or phone the nearby Yale industrial supply distributor.

GET BULLETIN P-1254

WORLD-WIDE YALE HOIST SALES and SERVICE Available Through Your Distributor

. . . the only hoist with
SYNCHRO-MATIC LOAD BRAKE
. . . the revolutionary new automatic brake with quick-as-a-wink braking power.

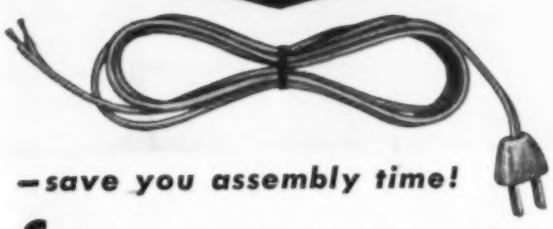
CAPACITIES: ½, 1, 1½ and 2 tons

D-12

THE YALE & TOWNE MANUFACTURING COMPANY
Roosevelt Boulevard Philadelphia 15, Pa.

For more details circle **NED-8402** on enclosed inquiry slip

CORD SETS by CORDS LTD.



—save you assembly time!

CORDS, LTD. makes cord sets for everything from electrical appliances to machine tools. Ends can either be stripped and twisted ready for quick installation, or equipped with plug.

Cords, Ltd. is an old hand at building complete cord set assemblies and shipping them at reasonable cost. Through a network of 20 Essex plants, of which Cords, Ltd. is a part, assemblies are engineered, processed and controlled from wire bar to your appliance. Write for details, explaining your application.

WIRE SX PRODUCTS

CORDS LTD.
DIVISION ESSEX WIRE CORPORATION
780 FRELINGHUYSEN AVENUE, NEWARK 5, N. J.

For more details circle NED-8403 on enclosed inquiry slip

cut costs · clean efficiently

cold steam

✓no back splash
✓blasts stubborn dirt
✓harmless to finest finish

HYDRO-AIR PRESSURE WASHER $9.95

Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease or rinses sheets and small parts with a penetrating spray.

widely used in these industries:
Air Craft
Automotive
Bakeries
Breweries
Cement
Ceramics
Cheese
Construction
Distilling
Electrical
Food Processing
Foundries
Jewelry
Leather
Meat Packing
Machine Shops
Marine
Mining Equipment
Oil & Refinery
Optical
Paper
Pharmaceutical
Public Utilities
Repair Services
Railroad
Rubber
Ship Building
Stone Polishing
Textile
Tobacco
Transportation

D & M Products, Inc., 26 N. Raymond Ave., Pasadena 1, Calif.

Order through your supplier or direct. The Hydro-Air washer will be sent post paid.

For more details circle NED-8404 on enclosed inquiry slip

Make on-the-job savings with APCO TORQUE TOOLS

There's no guessing how tight, no breaking of nuts to slow-down assembly and maintenance jobs, when you use Apco precision torque tools.

Easy-to-read dial gives accurate tension reading at a glance — is unaffected by temperature change or jarring, because it has no springs or intricate parts. Tension is simply measured by deflection of two steel bars.

Narrow head makes it a cinch to work into or around those hard-to-get-at-places — saves you time and money on fussy jobs.

All Apco Torque Tools are made of heat-treated nickel steel, in accordance with U. S. Government Specifications, and retain their accuracy under constant use. Available in a complete range of sizes from inch-grams and inch-ounces, up to 1,000 foot-pounds. All individually packed.

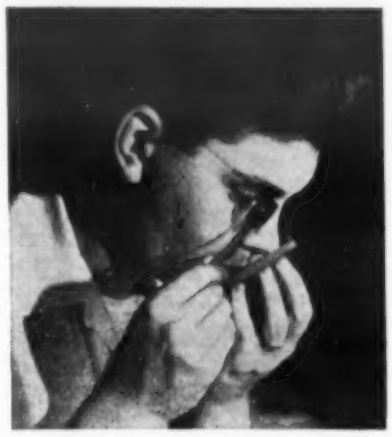
No. D36
0-3600 Inch Pounds

SEND FOR DESCRIPTIVE FOLDER TODAY!

APCO MOSSBERG CO.
161 LAMB STREET, ATTLEBORO, MASS., U. S. A.

For more details circle NED-8405 on enclosed inquiry slip

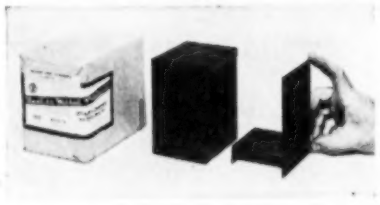
TEN-POWER MAGNIFIER employs three-element lens system



Recommended for shop use, 10-power model S-171 Hastings Triplet magnifier utilizes composite lens that is dirt free and light in weight. Chromatic and spherical aberrations are fully corrected to assure sharp flat image to edge of ¾-in. field of view. For convenience, magnifier is mounted in anodized aluminum cell with removable handle, has 1-in. focal length and can be used with equal effectiveness from either side. Made by **Buhl Optical Co.,** Dept. TN-3, 1009 Beech Ave., Pittsburgh 12, Pa.

For more details circle NED-8406 on enclosed inquiry slip

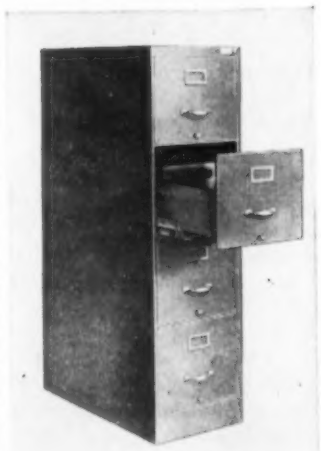
SMALL UTILITY CABINETS have built-in welded chassis



Suitable, for minor radio-television assemblies, components and control units, these small steel utility cabinets are supplied with black ripple finish. They can be obtained in six convenient sizes ranging from 4 x 2 x 4 in. to 6 x 6 x 6 in. Made by **Insuline Corp. of America,** 3602-35th Ave., Long Island City, N. Y.

For more details circle NED-8407 on enclosed inquiry slip

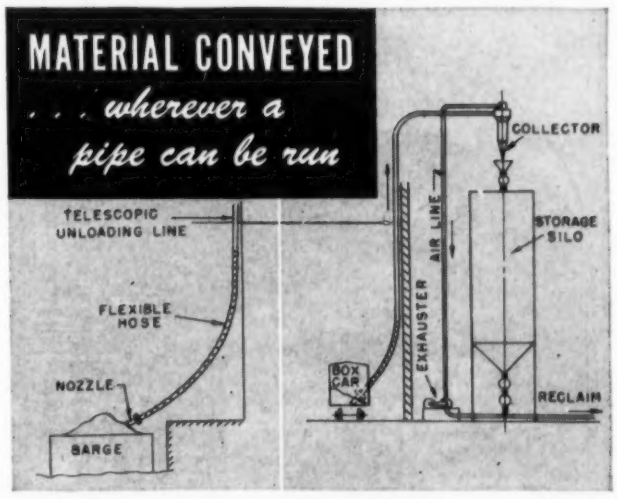
SUSPENSION FILING CABINETS in letter and legal drawer sizes



Featuring rounded corners on drawer fronts which prevent personal injury when drawers are left open, these suspension type filing cabinets can be obtained in four models with two, three or four letter drawers or three letter drawers and two card drawers. Letter drawers measure 14⅜ x 28 in. and legal size drawers 17½ x 28 in. Six ball bearings and two floating rollers assure easy rolling, and ⅜-in. pitch keeps drawers closed tightly and prevents rebound when drawers are closed hard. Cabinets are finished in green bake-on enamel. Made by **Lyon Metal Products, Inc.,** 324 Clark St., Aurora, Ill.

For more details circle NED-8408 on enclosed inquiry slip

MATERIAL CONVEYED . . . wherever a pipe can be run



A Beaumont "VAC-VEYOR" picks up dry, granular materials from barges, boxcars or trucks and conveys the materials to storage. When needed in processing, the "Vac-Veyor" transports the materials from storage to point of use—without degradation or contamination. The "Vac-Veyor" System operates in a fast, clean, economical and flexible manner—at a low cost of labor and maintenance. Let us survey all your bulk material handling requirements: Under one contract there's one responsibility . . . Beaumont's! For information, write to:—

Beaumont BIRCH COMPANY
1514 RACE STREET • PHILA. 2, PA.

DESIGNERS • MANUFACTURERS • ERECTORS • BULK MATERIAL HANDLING SYSTEMS

For more details circle NED-8409 on enclosed inquiry slip

RECONDITION FLUORESCENT FIXTURES NOW

• Get fluorescent fixtures into tip-top shape now. Eliminate noise, premature lamp burnouts, low lumen output, flickering and many other troubles by replacing defective ballasts with Acme Electric performance tested ballasts.

Acme Ballasts are stocked by leading electrical jobbers. For jobber in your territory write.

ACME ELECTRIC CORPORATION
3011 WATER STREET CUBA, N. Y.

Acme ACME Electric

For more details circle NED-8410 on enclosed inquiry slip

LEPEL offers a New LOW COST High Frequency HEATING UNIT

AT A PRICE SO LOW THAT NO MACHINE SHOP, TOOL ROOM OR LABORATORY CAN AFFORD TO BE WITHOUT IT!

Unit illustrated brazing carbide tips to cutting tools. Shanks up to 1½" square can be satisfactorily brazed.

• **SMALL and COMPACT**
Conveniently operated on bench or table—no mounting necessary.

• **ECONOMICAL OPERATION**
No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.

DOES ALL THESE JOBS *Faster, Better and Cheaper*
BRAZING, SOLDERING HARDENING, ANNEALING DRAWING AND MELTING

• **FULLY GUARANTEED**
Guaranteed for continuous duty cycle and stated performance.

• **LOW COST**
Complete unit with line connection and load coil $780.00 f.o.b. factory

WILL HEAT TO 1500° F.

⅛" steel rod 1" length in approx.	1 second
¼" " " " " "	3 seconds
½" " " " " "	15 seconds
1" " " " " "	60 seconds

Will melt 4 ounces of brass or steel in 4 minutes.
Equally well suited for heating of non-ferrous metals.

HARDEN SOLDER Lepel HIGH FREQUENCY HEATING UNITS BRAZE MELT

LEPEL HIGH FREQUENCY LABORATORIES, Inc., 39 West 60th Street, New York 23, N. Y.

For more details circle NED-8411 on enclosed inquiry slip

60 TIMES FASTER
... for reproducing drawings, specifications, reports!

PERFECT FOR ENGINEERS

Ozalid is a *speedy copying process* that reproduces anything drawn, typed or written.* No redrawing necessary for design changes, alterations or additions—simply make changes on an Ozalid "intermediate" copy. This is used to make desired number of Ozalid prints you need.

FREE! For complete information send for booklet. OZALID, Dept. I16, Johnson City, N. Y. Or call your local Ozalid distributor listed in your classified telephone book.

**If light won't shine through, an inexpensive intermediary step is taken.*

Cut Copying Costs... Use OZALID

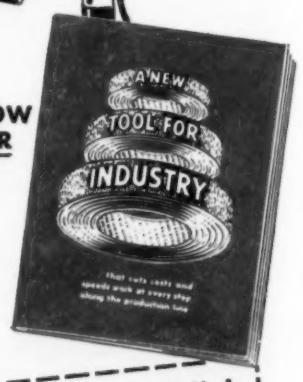
Johnson City, New York.
Ozalid in Canada—Hughes Owens Co. Ltd., Montreal
A Division of General Aniline & Film Corporation.
"From Research to Reality".

▲ For more details circle **NED-8414** on enclosed inquiry slip ▲

HOW TAPE HELPS INDUSTRY SAVE TIME, CUT COSTS...

SEND FOR FREE BOOKLET! SHOWS HOW TAPE CAN HELP IN YOUR BUSINESS Whatever your business, chances are you'll find the facts, figures and pictures in this 12-page booklet will help you cut costs!

Just fill out the coupon—and mail it *today*—to the address below for your copy.



INDUSTRIAL TAPE CORP. NEW BRUNSWICK, N. J.

NAME..... (PLEASE PRINT)

TITLE.....

COMPANY.....

ADDRESS.....

CITY..... STATE..... DEPT. 5N

Permacel®
INDUSTRIAL TAPES

INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

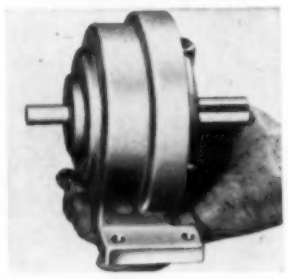
▲ For more details circle **NED-8415** on enclosed inquiry slip ▲

MULTIPURPOSE WRECKING BAR
aids salvaging lumber for reuse

Combining functions of crowbar, pry-rod, nail puller and sledge, Casteel Ripper Jack wrecking tool facilitates dismantling wood structures in such manner that wood is suitable for further use. Sturdily constructed of steel but light enough to handle on job, it can be used in almost any position either side or above or below structure being dismantled. Applications include removing sheathing, siding, flooring and roofboards as well as dismantling forms and barricades. Made by **Calumet Steel Castings Corp.**, 1650 Summer St., Hammond, Ind.

▲ For more details circle **NED-8416** on enclosed inquiry slip ▲

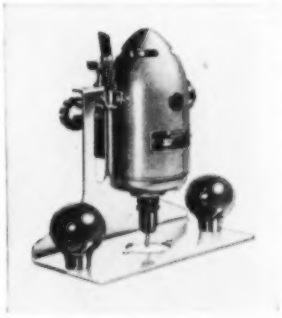
SPEED REDUCER
in-line type is of compact design



Suitable for any straight-line installation in which input does not exceed 1800 rpm, model 5-E speed reducer serves ¼ to 1-hp range. Maximum torque capacity is 100 lb-in. Features include use of antifriction ball bearings throughout, unusually quiet operation, reduction in number of working parts and high efficiency. Made by **Universal Gear Corp.**, 1452 E. Twentieth St., Indianapolis 7, Ind.

▲ For more details circle **NED-8417** on enclosed inquiry slip ▲

PORTABLE ROUTER
1/16-hp motor develops 19,000 rpm



Operating from standard 115-v ac outlet, this portable router can be used on wood, linoleum, Formica, plastics, etc. Quick-change chuck has ¼-in. capacity, and ⅛, $\frac{3}{16}$ and ¼-in. router bits are available. Adjustment for depth of cut is quickly attained and positively locked by two knurled set screws at rear. Wide front opening gives clear view of cut, and two large handles facilitate positioning.

Two kits of attachments are available. Kit No. 1 contains fence guide for edging and inlay work plus template guide for duplicating work. Kit No. 2 offers flexible shaft and pencil-grip handpiece with ⅛ and $\frac{3}{32}$-in. capacity chuck for converting router into flexible shaft tool. Made by **Dumore Co.**, Fourteenth & Racine Sts., Racine, Wis.

▲ For more details circle **NED-8418** on enclosed inquiry slip ▲

SAFETY EQUIPMENT FOR ALL INDUSTRIES

SAVES TIME & PREVENTS INJURIES

A speed up tool for lifting, feeding and positioning blanks of metal and other materials in stamping machines and die presses without inserting the hands or fingers within the danger zone . . . Used for separating sheets, transferring from piles or stacks . . . Many other uses on all non-porous materials.

Write for Bulletin L-1150A

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

▲ For more details circle **NED-8419** on enclosed inquiry slip ▲

Here's Why TRU-STEEL SHOT Costs Less to Use

- A Genuine True Steel That Has Received a Full Heat Treatment, Not Just a Draw or Anneal.
- Lasts Many Times Longer—Less Shot is Used
- Reduces Cleaning Costs Per Ton
- Saves Storage and Transportation Costs
- Increases Life of Machine Parts
- Reduces Machine Maintenance Costs
- Cleans Fast and Thoroughly

Write for Bulletin No. 59

DISTRIBUTED BY **American**
Mfd. by: Steel Shot Producers, Inc.
WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit Street, Mishawaka 8, Indiana

▲ For more details circle **NED-8420** on enclosed inquiry slip ▲

CONVOY *chem-board** STORAGE FILES

MAKE THE COST AND WEIGHT OF STEEL UNNECESSARY

Convoy Chem-board Storage Files weigh little over half as much as steel files . . . are priced in the corrugated paper board range — with serviceability in the steel range . . . take less than 10% more space than steel files . . . can be stacked to the ceiling without supports . . . mate together top-to-bottom and lock together side-to-side . . . have wax-like texture that makes drawers slide easily . . . are shipped assembled for easy installation without tools . . . are water resistant — moisture will not weaken them.

145 pounds—or 200 pounds and more—are the same to the standard letter file drawer in this unusual strength test!

(*) Chem-board is the product of Convoy's exclusive chemical impregnation process that hardens the raw corrugated paper board and thoroughly binds the fibers. It is widely used to replace steel and wood industrial tote boxes.

You'll like Convoy quality and economy. Write today for full information and prices on 14 standard sizes.

CONVOY *chem-board* STORAGE FILES

CONVOY, INC. • P. O. Station B, Canton 6, Ohio

▲ For more details circle **NED-8421** on enclosed inquiry slip ▲

NON-SLIP EVEN ON STEEP INCLINES

New, Revolutionary Abrasive Rolled Steel Floor Plate

End costly slipping accidents once and for all with A. W. ALGRIP the new and only ABRASIVE Rolled Steel Floor Plate. Get complete information now.

Send for this 8-Page Catalog No. A-5. It's filled with helpful data.

A.W. ALGRIP
ABRASIVE Rolled Steel Floor Plate
Product of ALAN WOOD STEEL COMPANY
Conshohocken 5, Pa.

▲ For more details circle **NED-8422** on enclosed inquiry slip ▲

The New **CHROMALOX CATALOG 50**

If you use HEAT in any form in your plant—for processes or on production lines—it will more than pay you to send for this catalog. It's packed with specifications for many types of CHROMALOX electric heaters for liquids, solids, air and other gases; also shows the new CHROMALOX all-metal Radiant Heater and a complete line of electric unit heaters. Catalog 50 includes valuable application and calculation data.

Write Today for YOUR Copy!

EDWIN L. WIEGAND CO. 7509 THOMAS BOULEVARD PITTSBURGH 8, PA.

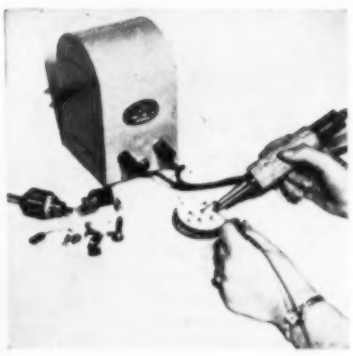
See other advertisement on page 4

CHROMALOX 18-98

ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-8423 on enclosed inquiry slip

SPECIFY LUMA SOLDERING TOOLS for DEPENDABILITY and SPEED on PRODUCTION WORK



The original and only pin point precision soldering tool for all types of soldering.

Production increases average 25 to 35% using LUMA METHOD of controlled concentrated heat.

Eliminate maintenance cost! Use the new time-saving method of soldering!

Terminal Work on a Production Basis

The resistance principle of heating is adaptable to all soldering requirements, offering savings not found by using other methods. Television, Telephone, Radio, Electronic and Motor Manufacturers are a few of the users who have found LUMA to be the solution for their soldering jobs.

NO OPEN FLAME—NO BURNS—NO COLD JOINTS

Especially adapted and recommended on soldering applications where core flux solder is used.

A size and type tool for every soldering or brazing job. Take advantage of our Free Two Weeks Trial offer and use a LUMA in your plant.

Consult Your Nearest Supply House

LUMA ELECTRIC EQUIPMENT CO.

P. O. Box 132 NED Toledo 1, Ohio

For more details circle NED-8424 on enclosed inquiry slip

MILLER ROTARY

HI-SPEED COPE-SAW DRILL-BIT

IT SAWS CUTS REAMS

SAWS, CUTS, REAMS . . . Sheet metal, angle iron, pipe, wood, plastic, Transite, etc. Amazing high-speed combination bit and saw fits any ¼" or ½" electric drill or slow drill press. Drills own starting hole to quickly cut, saw or ream opening. Easy to operate. Ideal for carpenters, auto mechanics, electricians, plumbers, hobby workers, many others. Abrasive resistant high speed steel. No breaking. Will withstand severe continuous use. Resharpened at no charge. ¼" diameter, over-all length 3½", cutting section 2" long with flutes ground from solid. Shipped same day—money back guarantee.

Discounts on quantity orders from dealers. Takes place of up to $50 in tools

SEND CASH, CHECK OR M.O.

only **$3.95** POST-PAID

Manufactured and distributed by:

INTERNATIONAL TWIST DRILL CORP.

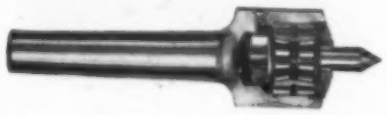
624 Wyandotte Rm. 456 Kansas City 6, Mo.

"Pioneers in break-resistant short drills"

For more details circle NED-8425 on enclosed inquiry slip

LIVE CENTER
tapered inserts are interchangeable

Equipped with No. 3 precision roller bearings, this live center has screw which permits adjustment for wear. Unit is available in Nos. 1, 2, 3, 4 and 5 Morse taper in both general-purpose and heavy-duty types. Double-cone single-cup type bearings provide bearing surface for both thrust and radial loads. Made by **Arrow Tool & Reamer Co.**, 422 Livernois Ave., Detroit 9, Mich.



For more details circle NED-8426 on enclosed inquiry slip

12-UNIT CONTROL STATION
affords installation flexibility

Designed for machine tool control and other heavy-duty installations, this 12-unit enclosure for type OT pushbuttons is addition to line of Oil-Tite control stations. Maximum interrupting capacity is 12 amp at 600 v ac, 60 amp at 110 v ac. Resilient cork-neoprene gasket provides dependable seal against oil, coolant, cutting compound and water. Five types of operator heads with matching pilot lights assure unit flexibility. Units and nameplates can be rotated 90, 180 or 270 degrees to enable mounting in any position. Contact blocks can be mounted on base and terminals are reversible for front or rear connection. Die-cast zinc enclosure has baked enamel finish over Bonderized metal. Vibration-resistant bulbs are used in indicating lights. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

For more details circle NED-8427 on enclosed inquiry slip

LIFTING MAGNET
utilizes four-point chain suspension

Suitable for use on overhead or crawler cranes to hoist, load, transport or otherwise handle all types of magnetic material, this improved lifting magnet employs all welded construction. It can be obtained in 29, 39, 45, 55 and 65-in. diameter sizes. Improvements include reduction in weight, more rapid heat dissipation, protector guards for cable and balanced magnetic circuit with improved flux characteristics. Made by **Dings Magnetic Separator Co.**, 4758 W. Electric Ave., Milwaukee 46, Wis.

For more details circle NED-8428 on enclosed inquiry slip

FLAT WASHERS LOCK WASHERS TO MEET ARMED FORCES SPECIFICATIONS

HERE THEY ARE—QUICK DELIVERIES!

We manufacture a complete line of high quality washers made to meet the most exacting specifications of the Army, Navy and Air Force. These product-proved washers include:

AN 935, AN 940, AN 945, AN 950, AN 955, AN 960, AN 961, AN 970, AN 975, NAS 143, NAS 143C, Ordnance BEBX1, Ordnance BEBX2, Ordnance BEBX3, Ordnance BECX3 and many others

We can supply them in regular steel, spring steel, stainless steel, brass, bronze, monel metal, aluminum, Alclad and copper as specified. We plate them with zinc, cadmium, nickel, brass, chrome . . . or they can be parkerized.

Garrett, as a manufacturer, offers you one source and quick deliveries on all types of small parts—flat washers, spring lock washers, stampings, springs, hose clamps, snap and retainer rings. Write for new folder of specifications for Armed Forces washers.

Manufactured by GEORGE K. GARRETT CO., Inc. Philadelphia 34, Pa.

GARRETT OF PHILADELPHIA

For more details circle NED-8429 on enclosed inquiry slip

for GREATEST DEPENDABILITY and EFFICIENCY in metered pressure pumping of **SULPHURIC ACID** ...at all concentrations

Pumps against line pressure . . . meters accurately . . . has no stuffing box, so eliminates leakage, prevents corrosion of pump or contamination of product, avoids loss of prime . . . lowest maintenance . . . Hundreds of satisfactory installations.

Lapp PULSAFEEDER

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

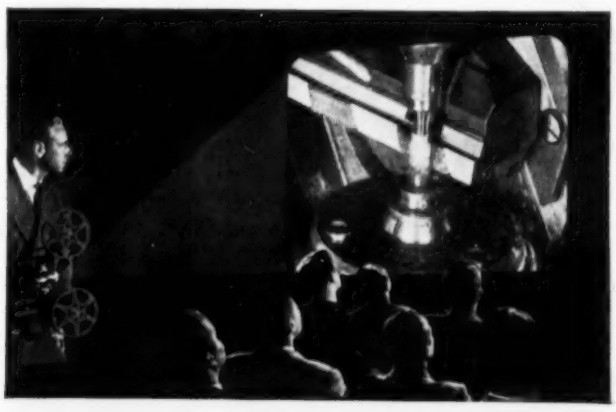
WRITE for Bulletin 262 with complete description and specifications.

LAPP INSULATOR CO., INC., PROCESS EQUIPMENT DIVISION, 326 MAPLE STREET, LE ROY, N.Y.

For more details circle NED-8430 on enclosed inquiry slip

Action too fast to see

can be studied here over and over again



You can photograph mechanical motion or fluid flow with the Kodak High Speed Camera, taking up to 3200 pictures a second on 16mm. movie film. When the film is projected at regular speed, you can watch the motion slowed down 200 times.

Seeing the dynamic facts in "slow motion"—whenever and wherever you want to show them—brings quick answers to design and processing problems. Send for the booklet, "Magnifying Time." Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

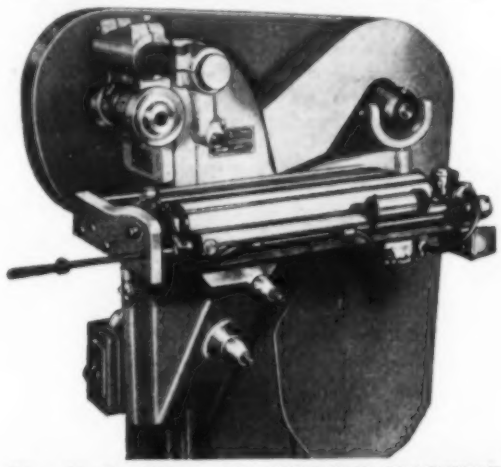
the Kodak *High Speed* Camera

Kodak TRADE-MARK

For more details circle NED-8431 on enclosed inquiry slip

A LOW COST SEMI-AUTOMATIC TOOL for HIGH SPEED PRODUCTION

—can easily be developed from a rugged Miller equipped with air or hydraulic power feeds or special attachments.



The U. S. "No. 1" MILLING MACHINE

The number one value in medium size all purpose milling machines. Hand or power feed. Send for information.

The U. S. MACHINE TOOL Co.

A Division of U. S. Burke Machine Tool Co.

East 72nd Street Cincinnati 16, Ohio

▲ For more details circle **NED-8432** on enclosed inquiry slip ▲

Handy-Handler

This lightweight, general-purpose conveyor is unequalled in versatility. It will save you hundreds of dollars in thousands of ways expediting handling, eliminating costly, time-consuming, hand operations.

In the shipping room, the warehouse, along the production line, the Handy-Handler hustles bulk materials to their destination. Capacities on stoker coal run to 24 tons per hour operating at a 35° angle with a belt speed of 450 fpm. Ashes, gravel, salt, ores, chemicals, mash and other bulk substances at comparable rates.

ENGINEERED FOR SERVICE

Constructed of 61ST6 aluminum alloy, the Handy-Handler is easy for one man to position and operate. It's portable in the real sense of the word; take it anywhere in the plant, quickly and easily.

Comes in lengths from 10 to 20 ft. Choice of rubber flights and continuous rubber belt or rubber flights and steel chain. Powered by either gasoline engine or electric motor. Negligible maintenance required.

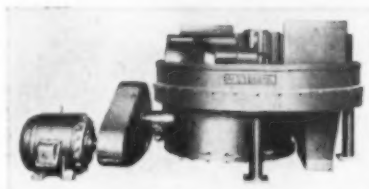
Write for free illustrated literature on Model "S" Handy-Handler. A postcard will do!

Sixteen-ft. conveyor without power unit sells for $218.00. With power unit, prices on 16-ft. models run from $270.00 to $287.50 depending on motor or engine selected. All prices F.O.B. Orient.

BELT THE BELT CORPORATION
7402 STAHL ROAD ORIENT, OHIO

▲ For more details circle **NED-8433** on enclosed inquiry slip ▲

PLASTICIZING PAN is built in up to 10-ft sizes



Designed primarily for phosphate fertilizer processing, this plasticizing pan can be adapted to ceramic, chemical and general process industries since it will handle any raw material in dry, moist or plastic state. As used in manufacture of triple superphosphate fertilizer, crushed rock is fed continuously to machine which further reduces material to finer mesh. Liquid materials are added continuously, and pan mixes ground phosphate with liquid ingredients while thoroughly plasticizing them and discharging product through bottom of pan in form of wads suitable for drying. Belt conveyor carries finished product from pan to dryer. Made by **Patterson Foundry & Machine Co., East Liverpool, O.**

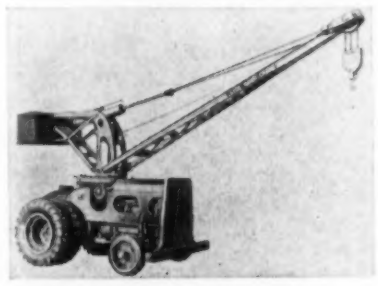
▲ For more details circle **NED-8434** on enclosed inquiry slip ▲

TANKLESS WATER HEATER capacities range up to 450 gph

Offered as standard unit or as deluxe model with fully insulated metal jacket, tankless water heaters have cast iron shell and spiral copper tube bundle. Three sizes are offered having capacities of 210, 240 and 300 gph using 180° F boiler water or 315, 365 and 450 gph with 200° F boiler water. All ratings given are based upon heating water from 40° F to 140° F. Made by **Bell & Gossett Co.,** 8202 N. Austin Ave., Morton Grove, Ill.

▲ For more details circle **NED-8435** on enclosed inquiry slip ▲

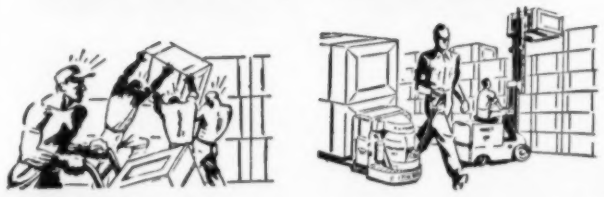
MATERIALS HANDLING CRANE has lifting capacity of 5 tons



Mounted on Minneapolis - Moline tractor, Handi-Crane has pintle hook attached for use in towing service as well as materials handling. Boom of 18 or 24 ft rotates 320 degrees and has attached counterweight that permits load to be swung at constant radius with absolute safety. Boom is raised and lowered by hydraulic cylinder that allows safe and accurate control independent of any other operation. Hydraulic stabilizers on front end provide additional stability when handling loads over side. Short turning radius and roller bearing steering mechanism permit fast and easy maneuvering in congested areas. Made by **Clyde Iron Works, Inc.,** P. O. Box 370, Duluth 1, Minn.

▲ For more details circle **NED-8436** on enclosed inquiry slip ▲

What is the Cost of Handling Your Material *Manually?*



Deduct 50% or more when you switch to AUTOMATIC Electric Trucks!

Imagine what a saving like that could do to make your profit figure look better, your cost structure more in line with what it should be!

These amazing electric trucks lift, move and stack your material ceiling-high with easy, finger-tip control . . . hundreds of pounds, or tons and tons. One operator handles more material than three workers could by manual handling methods, releasing two men for productive, profitable work.

Find out how Automatic Electric Trucks will pay you a money-saving, cost-cutting bonus every time you handle material. Write for catalog.

FREE! MATERIAL HANDLING CHECK CHART

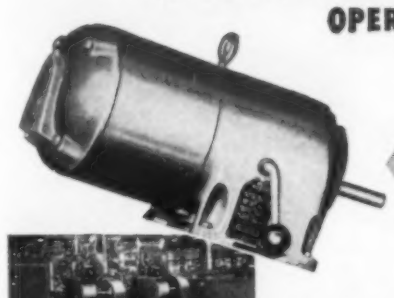
This Money-Saver Check Chart tells whether you are paying too much for material handling . . . how Automatic Electric Trucks can cut your handling costs 50% to 75%. Write now, *today*, for your copy.

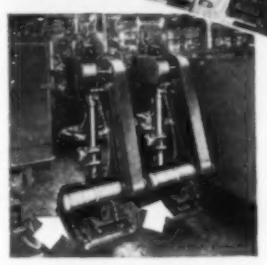
Trade **Automatic** Mark
61 West 87th Street, Dept. W-5
Chicago 20, Illinois

Trade Automatic Mark ELECTRIC TRUCKS Lighten LIFE'S LOADS

▲ For more details circle **NED-8437** on enclosed inquiry slip ▲

HERE IS THE ANSWER TO INCREASING PRODUCTION WHILE LOWERING OPERATING COSTS



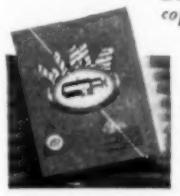


Above view shows Lima Drives applied to two Garvin Automatic Tappers. Photo courtesy International Harvester Company.

LIMA GEARSHIFT DRIVES have very definitely proven themselves to be the answer to lower operating costs and greater flexibility of machine operations. LIMA GEARSHIFT DRIVES are widely accepted by manufacturers of original equipment, as an integral "selective-speed" power source.

LIMA DRIVES are available for operation on single phase power supplies in ½ and ¾ hp sizes and for polyphase in sizes from ½ to 25 hp.

LIMA'S New Illustrated Drive Bulletin DB-1 is just off the press—send for your copy today.



LIMA

Representation in principal cities
THE LIMA ELECTRIC MOTOR COMPANY
315 Findlay Road • Lima, Ohio

▲ For more details circle **NED-8438** on enclosed inquiry slip ▲

NOW for complete protection

FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S

FISH BRAND

***NEOPRENE**

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. We will be glad to recommend the garment which best meets your individual requirements.

**A chemical rubber product of the DuPont Company*

For folder of styles and detailed information write Department SF.

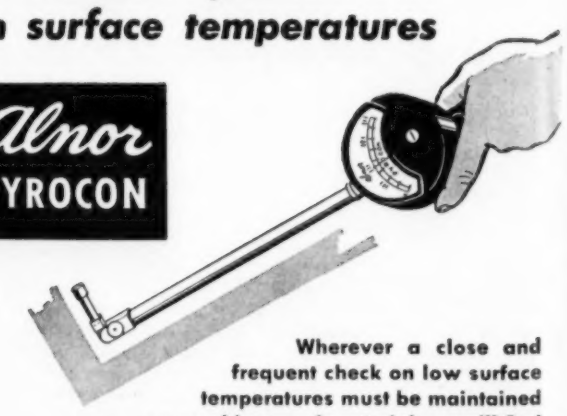
NEOPRENE RUBBER

TOWER'S FISH BRAND **A. J. TOWER CO.** TOWER'S ARROW BRAND
24 SIMMONS ST., BOSTON, MASS.

▲ For more details circle **NED-8439** on enclosed inquiry slip ▲

for close check on surface temperatures

Alnor PYROCON



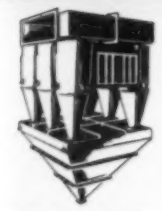
Wherever a close and frequent check on low surface temperatures must be maintained on machines and materials, you'll find the handy Portable Pyrocon a valuable instrument. It is unexcelled for fast, accurate temperature readings of any surface, flat or curved, stationary or revolving. It may be used with plastic materials, waxes, rubber, liquids, oil or grease, molten soft metals, etc. The rugged Pyrocon can bring laboratory accuracy to your temperature measurement—at low cost. Write today for details on wide selection of thermocouples and extension arms.

Illinois Testing Laboratories, Inc.,
Room 529 420 N. LaSalle St., Chicago 10, Ill.

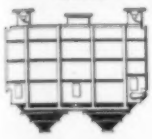
Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle **NED-8440** on enclosed inquiry slip ▲

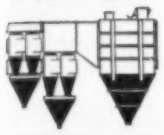
buell KNOWS DUST RECOVERY



Buell (van Tongeren) Cyclone



Buell "SF" Electric Precipitator



Combination Cyclone-Precipitator Unit

WHENEVER industrial engineers discuss valuable dust recovery, Buell is the big name mentioned. For Buell offers knowledge and capabilities in dust recovery second to none. Only Buell Precipitator recovers ultra-fine dust with "Stedi-flow" dust fall—continuous cycle rapping that means constant peak efficiency. Buell large diameter cyclones do not plug, require next to no maintenance. Complete details on both types of equipment are available. Buell Engineering Co., Suite 5032, 70 Pine St., New York 5, N. Y.

buell

Engineered Efficiency in **Dust Recovery**

▲ For more details circle **NED-8441** on enclosed inquiry slip ▲

Imperial

TRACING CLOTH FOR HARD PENCILS

• Imperial Pencil Tracing Cloth has the same superbly uniform cloth foundation and transparency as the world famous Imperial Tracing Cloth. But it is distinguished by its special dull drawing surface, on which hard pencils can be used, giving clean, sharp, opaque, non-smudging lines.

Erasures are made easily, without damage. It gives sharp, contrasting prints of the finest lines. It resists the effects of time and wear, and does not become brittle or opaque.

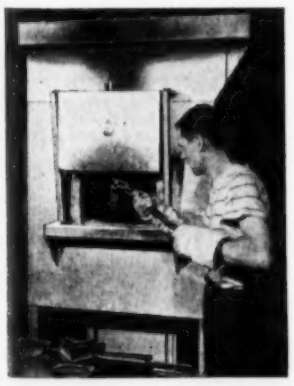
Imperial Pencil Tracing Cloth is right for ink drawings as well.

Imperial PENCIL TRACING CLOTH

SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE

▲ For more details circle **NED-8442** on enclosed inquiry slip ▲

"Most satisfactory service . . . for over three years"



PERECO Electric Furnace

is proving its value to American Safety Table Co., Inc., Reading, Pa.

Records of satisfactory service for others provide a useful yardstick in selecting your Pereco Furnace. For example, this company reports "most satisfactory service" using the general shop Model FG-7800 for over 3 years "to preheat steel rotors (at 1200° F.) for 1/3 and 1/2 hp electric motors." The unit's maximum range is 2500° F. Variety of stock models available—custom designs, too.

• *Write today for "get-acquainted" folder.*

PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd., Columbus 12, Ohio

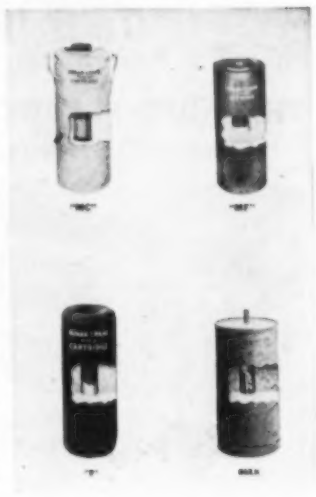
EXPORT DEPT.—The Inland Export Co., Inc., Greer Bldg., New Castle, Pa.

PERENY EQUIPMENT COLUMBUS OHIO

STANDARD AND SPECIAL FURNACES FOR ANY TEMPERATURE 450° TO 5000° F.

▲ For more details circle **NED-8443** on enclosed inquiry slip ▲

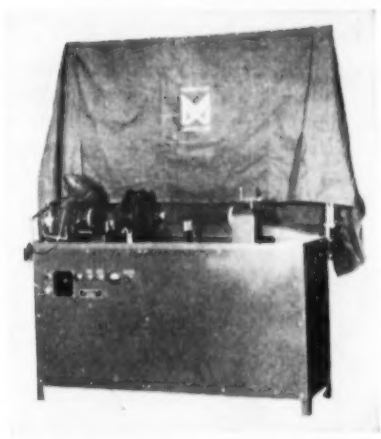
FILTER CARTRIDGES refills provide correct media



These easy-to-handle cartridge refills remove either solids or products of oxidation or both and maintain any type oil in approximately new condition for long periods of time. Cranite processed fullers earth and Palconia blended cellulose fiber can be obtained either in bulk or in three types of interchangeable refills. MC cartridge is woven cotton bag containing 15 lb of active material through which oil passes to remove solids, abrasives, resins and acids. MF cartridge is perforated metal basket lined with woven cotton sock material and uniformly packed with Palconia. S cartridge contains 4½ lb of Palconia tightly packed in woven cotton sock material and has fiber center tube that simplifies disposal. Made by **Honan-Crane Corp.**, 668 Wabash Ave., Lebanon, Ind.

▲ For more details circle **NED-8444** on enclosed inquiry slip ▲

INSPECTION UNIT utilizes magnetic particle method



Developed specifically for automotive fleet overhaul shops, type DR-543 magnetic particle inspection unit furnishes ample sensitivity for examination of all truck, bus or passenger car parts up to 54 in. long. Magnetic particles in oil suspension are flowed over surface of magnetized part, and any crack in part causes local magnetic attraction to hold particles and build them up to glowing fluorescent indication when examined under Magnaglo black light unit. Features of unit include ability to magnetize any part longitudinally or circularly and demagnetization of parts after inspection without using special equipment. Made by **Magnaflux Corp.**, 5916 Northwest Highway, Chicago 31, Ill.

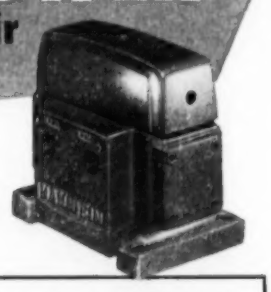
▲ For more details circle **NED-8445** on enclosed inquiry slip ▲

DO YOU KNOW? The 2nd Plant Maintenance show and conference will be staged at the Cleveland Public Auditorium on January 15 to 18, 1951. Chairman of the plant maintenance conference will be Mr. L. C. Morrow. Advance registration cards and hotel information can be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

▲ For more details circle **NED-8446** on enclosed inquiry slip ▲

The ANSWER to controlling air electrically!

MODEL NE *Electric* VALVE



10 WATT SOLENOIDS—Low power requirements. No relays, no transformers required. Operates directly off regular 110 or 220 v. circuits. Solenoids continuously rated.

FAST, EFFORTLESS CONTROL—Works by push button, limit switch, or any light contact. Only momentary contact needed. Ideal for remote control . . . interlock or sequence operation . . . building into equipment.

DISC TYPE—Pilot controlled; piston operated. Metal-to-metal seat; positively air-tight. Quiet, self-lapping, long lasting. No packing or seals to maintain.

HANNIFIN ENGINEERED—Small, rugged, self-contained. Type 1 for control of advance and return cylinder strokes through separate push buttons. Type 2 for single push button control—equivalent to spring return valve action. Sizes ⅜", ½", and ¾". 25 to 150 p.s.i.

Ask for Bulletin 230

HANNIFIN *Corporation*

1127 So. Kilbourn Avenue • Chicago 24, Illinois

Nationwide Sales and Service

▲ For more details circle **NED-8447** on enclosed inquiry slip ▲

TALK BUSINESS in 2 seconds!

SAVE TIME

CUT COSTS

Reach Anyone Instantly

WITH ELECTRONIC AMPLICALL

THE BETTER BUSINESS INTERCOM SYSTEM

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your local AMPLICALL specialist, or write us direct

Talk business in seconds—save time and cut costs now with fast-action AMPLICALL. Simple 2-second speech contact between all departments speeds routine—measurably boosts office and plant efficiency. AMPLICALL keeps personnel on the job every working minute—*gets more work done for every operations dollar spent*—pays for itself quickly! Get the full details on AMPLICALL today!

Electroneering is our business

SOUND EQUIPMENT — Rauland — INTER-COMMUNICATION

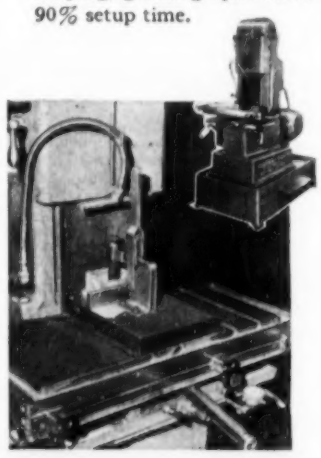
RAULAND-BORG CORPORATION • 3523-D ADDISON ST., CHICAGO 18, ILL.

▲ For more details circle **NED-8448** on enclosed inquiry slip ▲

PORTER-CABLE ABRASIVE BELT MACHINING

Does More Surfacing Jobs *Faster* and *Better*

Features high speed cutting by millions of abrasive points imbedded in a continuous belt, cooled and cleaned by water and other coolants. Does close tolerance work on flats, squaring, cylindrical surfacing; deburrs, knocks off corners, forms radii, bevels and other operations. Often does milling, shaping, grinding operations 10 times faster—saves 75-90% setup time.



AUTOMATIC FEED

Already Saved Over Four Times the Cost of the Original Machine

A manufacturer of aluminum switches and conduit boxes achieved an amazing step-up when he replaced milling with a Porter-Cable BG-8, Automatic Feed. Before, he produced 25 boxes an hour — he now produces 100 an hour. He has already saved over four times the cost of the original machine. Details upon request.

CONTOUR GRINDING

Model C-6. For curved or flat-face grinding or polishing. Flexible abrasive belt runs over shaped contact roll. Loaded abrasive wheel no longer necessary. Wide-range adjustments easy for varied work. Saves set-up time and reworking of piece.

FINAL FINISH

Model WG-4. For production runs on small parts, fed freehand or by simplest fixtures. Gives final finish to jobs done on automatics, hand and hacksaws, lathes, milling machines, etc. Grinds carbide tipped tools.

PLATEN OR FREE BELT

Model B-6W. Quickly adaptable to flat, curved or irregular pieces. Various shaped platens form the flexible abrasive belt to fit many shapes of work. Free belt reaches inaccessible spots.

FREE — Let us prove that Abrasive Belt Machining (wet or dry) can reduce cost of many operations. Send us samples for recommendations — or ask to have our engineers discuss your problems at your convenience, at your plant.

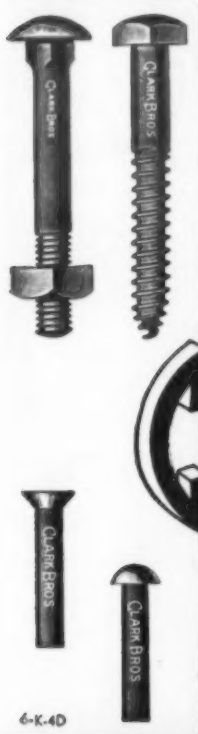
PORTER-CABLE Machine Co.

2711 N. SALINA ST., SYRACUSE 8, N. Y.

Manufacturers of SPEEDMATIC and GUILD Electric Tools

In Canada Write: Strongridge, Ltd., St. Catharines, Ont.

▲ For more details circle **NED-8449** on enclosed inquiry slip ▲



FOR GREATER SECURITY FASTEN FAST WITH CLARK FASTENERS

CLARK

QUALITY INDUSTRIAL FASTENERS SINCE 1854

BOLTS...NUTS
RIVETS...SCREWS

Since 1854 the Quality . . . Accuracy . . . and Uniformity of All CLARK Products has never been surpassed. Close to a century of leadership explains why users always ask for them by name "CLARK" — They Fasten . . . Fast . . . Longer.

6-K-4D

CLARK BROS BOLT CO.
MILLDALE, CONN.

For more details circle NED-8452 on enclosed inquiry slip

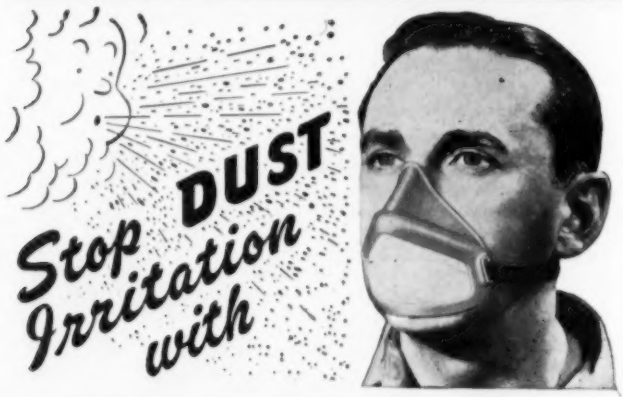
VULCAN
ELECTRIC SOLDERING TOOLS

SCREW TIP
A Size for Every Job
7/16"
1/2"
7/8"
1"
1-1/8"
1-3/8"
1-5/8"
1-3/4"

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.

The complete Vulcan line includes Electric Soldering Tools for every purpose—Screw Tip for high production.—Plug Tip for easy maintenance.—Pygmy for delicate work.
Electric Heating Units for assembly into manufacturers' own products.
Electric Solder Pots, Glue Pots, Branding Irons and various other devices using electric heat.

For more details circle NED-8453 on enclosed inquiry slip



new sensational FLEX-A-FOAM
— FILTER MASK —

Easier to breathe through and talk through than an ordinary handkerchief . . yet filters non-toxic nuisance dusts as small as 1/25000 of an inch!

- Extremely light in weight — only 1 ounce complete.
- Self-adjusting to every face size.
- Simple in design with only 4 interlocking parts.

SAMPLE $1.50 POST PAID

Dust protection your workers will welcome and WEAR!

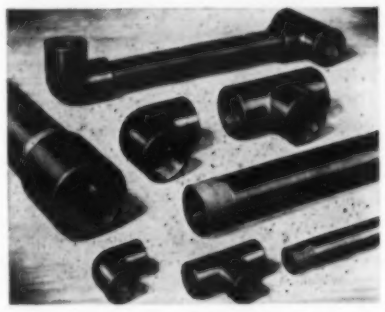
Write TODAY for descriptive circular

THE GOGGLE PARTS COMPANY
1468-70 W. 9th St. • Cleveland 13, Ohio

For more details circle NED-8454 on enclosed inquiry slip

New Processes and Materials

THREADED PLASTIC PIPE molded fittings are also available



Installation of standard or intricate systems for handling fluids or gases is facilitated by TL plastic pipe and fittings. Pipe is furnished in 20-ft lengths, has standard International pipe threads and can be threaded and cut with standard pipe-fitting tools. Because of inherent pliability of plastic from which this pipe is extruded, fit-up is rapid and leakproof joints are assured. Supplied in standard pipe diameters from ¼ to 2 in., pipe features light weight and immunity to rot, rust and electrolytic corrosion. A natural insulator, pipe can be used as conduit in underground, underwater and structural installations at temperatures up to 140° F. Made by **Carlon Products Corp.**, 10237 Meech Ave., Cleveland 5, O.

For more details circle NED-8455 on enclosed inquiry slip

HEAT RESISTANT PAINT withstands temperatures of 500° F

Recommended for painting radiators and other heated metal products, this heat resistant enamel is available in wide range of colors. It dries hard with tough porcelain-like finish and provides durable surface that resists constant scrubbing, boiling water and grease. Enamel is ready to use as it comes from can, and extreme color requirements and shading can be obtained by adding pure oil colors to basic tones. Made by **Sapolin Paints Inc.**, Dept. N, 229 E. 42nd St., New York City, N. Y.

For more details circle NED-8456 on enclosed inquiry slip

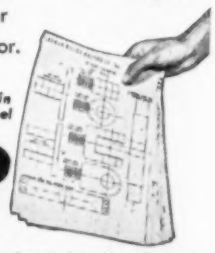
ANTIFOGGING SOLUTION protects glass or plastic eyewear

Fogging and steaming of goggles and glasses from body heat, humidity or temperature changes is prevented by Fog-Free solution. Surfactant-silicone composition creates invisible coating on optical surfaces which does not impair vision in any way. Non-hazardous in use, solution is effective for hours under most severe conditions. Cleaning and antifogging solutions and lintfree tissues can be obtained in handy kit that can be attached to safety box. Made by **Wilkins Co.**, Cortland 26, N. Y.

For more details circle NED-8457 on enclosed inquiry slip

SPEED PRODUCTION WITH
10-DAY DELIVERY
SPEED DESIGN WORK WITH
FREE TEMPLATES
SAVE INSTALLATION SPACE WITH
O-M CYLINDERS

Ortman-Miller cylinders for air, hydraulic and water applications are available in the full range from 1½" to 8" bores *on ten-day delivery!* Add this to the other advantages of space saving and simplicity of design (no tie-rods, no bulky end caps). All machined steel (no castings) and bearing bronze. Complete selection of *interchangeable* mounting devices. Write today for details and services of your distributor.

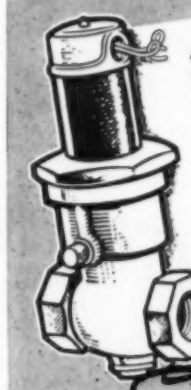


And . . . write today for free complete set of templates in one-half and full scales. Precision drawn to save your time!

ORTMAN-MILLER
MACHINE CO., INC.
1222-4 150th Street, Hammond, Indiana

For more details circle NED-8458 on enclosed inquiry slip

Atkomatic
Electrically Operated
VALVES



Available in a wide selection of types for pressures up to 3000 pounds, ATKOMATIC Valves are extra rugged for extra service. In thousands of installations all over the nation, they have proved their ability to stand up under long and severe punishment. Simple and compact, they provide trouble-free operation either in your plant or on your product. Get the facts about ATKOMATIC!
ATKOMATIC VALVE COMPANY, INC.
1255 ROOSEVELT AVE. • INDIANAPOLIS 7, INDIANA

Send for Literature

For more details circle NED-8459 on enclosed inquiry slip

Dependable
MEASURING & CHECKING EQUIPMENT

BOX PARALLELS. In 15 sizes, ranging from 3 x 4 x 12 and up.
SURFACE PLATES Over 50 sizes, ranging from 7 x 7½ to 96 x 192.
SLOTTED ANGLES In 19 sizes, ranging from 4 x 9 x 5 and up.
UNIVERSAL ANGLES In 10 sizes, ranging from 4 x 3¾ x 5 and up.

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

SOLID ROTARY MACHINE HANDLES
STRAIGHT and OFFSET TYPE
CAST IRON
MALLEABLE IRON

Send for Complete Catalog

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Road • Detroit 12, Mich.

For more details circle NED-8460 on enclosed inquiry slip

Twenty-five heavy rough forgings are strapped into one secure unit to permit easy handling with a magnet crane. Three Gerrard Round Steel Straps hold each bundle firmly.

TIE IT TIGHT...
that means GERRARD!

Tight as tight as can be . . . that's the kind of tie Gerrard Strapping gives you. Gerrard Round Strapping clinches evenly at corners . . . danger of breakage is sharply reduced. Packages remain firm from plant to destination.

Gerrard Strapping can be used for small parcel post packages, heavy pallets or carload lots of steel pipe and plate. And Gerrard Round Steel Strapping costs about 40% less than any other metal reinforcement.

Write for a *free* copy of *Blue Book of Packaging*. And consult a Gerrard engineer about your packaging problems. His services are available free of charge. **Gerrard Steel Strapping Company, 4717 South Richmond St., Chicago 32, Ill.**

GERRARD ROUND STEEL STRAPPING
UNITED STATES STEEL

For more details circle NED-8461 on enclosed inquiry slip

THIS TOOL IS WORTH $12,500

ROTARY ELECTRIC IMPACTOOL

The shop that can do a 3-hour job in 1 hour and 5 minutes, is bound to make money, for that 64% saving in labor time is pure profit. This is the accomplishment of a well-known motor rebuilding company located in the Southwest, which uses four Ingersoll-Rand electric Impactools in tearing down and assembling automobile engines.

The switch to electric Impactools saved 115 minutes per engine, which enabled them to increase their production by 3 completed engines per day. This meant an additional clear net profit of $231 per day, figured conservatively, or $50,000 a year . . . $12,500 for each Impactool. Needless to say, the cost of the tools was amortized in just a few days.

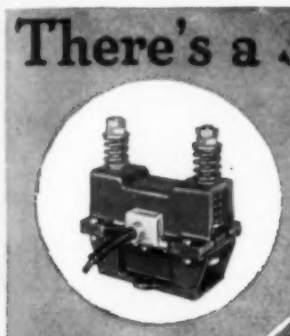
Send for your copy of Report 5082-6 which gives all the names, facts and figures on this outstanding extra-profit story.

Ask your Jobber for an Impactool demonstration

Ingersoll-Rand
11 Broadway, New York 4, N. Y.
559-18
Originator of Impactools — Air and Electric

For more details circle **NED-8462** on enclosed inquiry slip

There's a SYNTRON "Pulsating Magnet" ELECTRIC VIBRATOR



To Keep Those Stubborn Materials Free Flowing

Whether It's a 1-cu.-ft. Hopper Or a 100-Ton Storage Bin

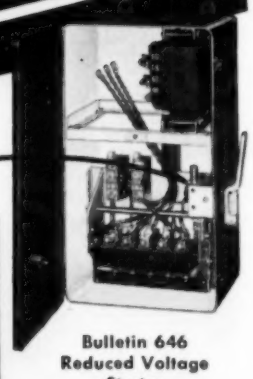
WRITE TO

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

For more details circle **NED-8463** on enclosed inquiry slip

NEW Bulletin 646 Manual Transformer-Type Reduced Voltage Starter

with time delay switchover



Bulletin 646 Reduced Voltage Starter

A-B Quality

Here is the first outstanding improvement in manual transformer-type starters in twenty-five years. Bulletin 646 motor starters have an adjustable time delay which prevents careless operators from switching the motor too quickly to full running voltage. It is available in four sizes from 5 hp, 220-440-550 v, to 250 hp, 440-550 v, for 25, 50, and 60 cycles. Write for descriptive bulletin. Allen-Bradley Company, 1334 South Second Street, Milwaukee 4, Wis.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle **NED-8464** on enclosed inquiry slip

New Processes & Materials

SELF-POLISHING FLOOR FINISH nonslip polish is applied with mop

Asphalt or rubber tile, lineoleum and wood floors can be given high-luster nonskid surface quickly and easily with Check-Slip self-polishing floor finish. Surface is hard, does not become sticky in hot or humid weather, and can be mopped or buffed repeatedly. Being a water-emulsion product, finish is not inflammable. This plasticized resin material is applied to thoroughly cleaned floor with a mop. It dries in 20 or 30 minutes, and after 48 hours is completely water resistant. Coefficient of friction or nonslip qualities are said to improve with age. Made by **R. M. Hollingshead Corp.**, 870 Cooper St., Camden 2, N. J.

For more details circle **NED-8465** on enclosed inquiry slip

WATER-RESISTANT ADHESIVES meet military packaging requirement

Improved line of water-resistant resin adhesives satisfies joint U. S. Army and Navy export packaging specifications. Among adhesives offered are those for sealing of solid fiber V-board shipping cases, manufacture of case liners for wooden boxes and forming water-resistant paper bags and other flexible wrappings. Speed of set of each adhesive has been regulated to fit standard industrial packaging and case sealing equipment. Adhesives can be obtained in 1, 5 and 55-gal drums. Made by **Paisley Products, Inc.**, 1776 Canalport Ave., Chicago 16, Ill.

For more details circle **NED-8466** on enclosed inquiry slip

CLOTH SIZING COMPOUND acts as soil suspending agent

An acid ester derivative containing sodium carboxylate and sulfonate groups, Nu-Film starch product prevents redeposition of dirt onto textile fibers, particularly when compounded with detergents of alkyl-aryl variety. Removable from fabrics without use of enzymes, size has favorable properties for formulation of laundry and household liquid starches. In addition, it is suitable for warp sizing and finishing of cotton and rayon fabrics. Illustration shows unsized cloth at left which was immersed and agitated in solution of standard soil plus conventional detergent. Cloth at right was agitated in similar solution to which small quantity of this compound had been added. Made by **National Starch Products Inc.**, 270 Madison Ave., New York 16, N. Y.

For more details circle **NED-8467** on enclosed inquiry slip

Ceiling-High storage with a WELD-BILT Portable Elevator can double and triple your storage facilities, free valuable floor space for more productive use!

There's a Weld-Bilt Portable Electric Elevator to suit your needs exactly, in single, double telescopic or hinged types, in capacities from 500 to 4,000 lbs. They're easily moved, electric motor powered, easily controlled by convenient push button and automatic top-and-bottom limit switches.

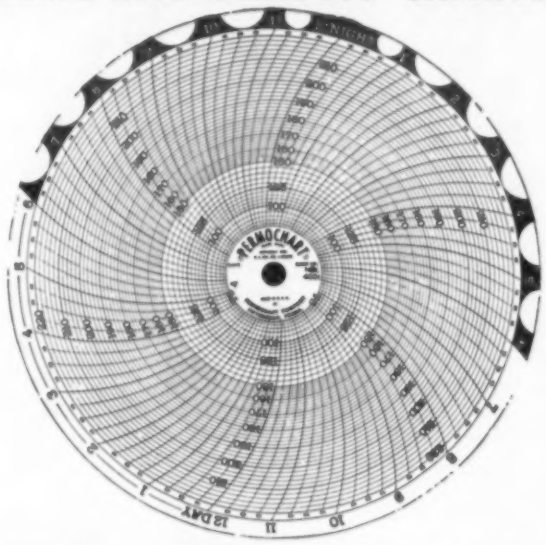
Get the whole story of profitable space-saving storage now from your nearby WELD-BILT engineer, or write for catalog and suggestions.

WEST BEND EQUIPMENT CORPORATION
Materials Handling Engineers
311 Water Street, West Bend, Wis.

OTHER WELD-BILT PRODUCTS —

For more details circle **NED-8468** on enclosed inquiry slip

LONG-LIFE PLASTIC CHARTS



Reusable — PERMOCHART — Washable*

You can use WASHABLE, laminated plastic "PERMOCHARTS"* on all your circular recording and controlling instruments. Convenient to use, they'll save you time and expense.

• Guaranteed serviceable life—TWO YEARS. • Cost per day only $ .00205 to $ .00342. • Available for any instrument using circular charts. • Made of 100% "Vinylite" plastic laminated construction.

Send for sample of PERMOCHART construction

* Reg.

ALLEGHENY PLASTICS, INC.
221 CHESTNUT ROAD SEWICKLEY, PA.

For more details circle **NED-8469** on enclosed inquiry slip

Protected Outside . . . COOLER INSIDE!*

Free Book Full of Ideas

THIS NEW FREE BOOK tells how and why Aluminum paint gives maximum protection to surfaces—like this truck body—exposed to fumes, weather and heat. How the right aluminum paint reflects heat, keeps interiors cooler—lengthens the life of wood, metal and canvas.

If you've been buying aluminum paint without the information this book contains; if you've never used the aluminum paint it describes—let it bring your paint knowledge up to date. New pigment and vehicle developments have greatly improved aluminum paint performance.

ALCOA does not make paint, but we have prepared this book to help you select the right aluminum paints, made by leading paint manufacturers from Alcoa pigments. Included are application instructions to insure maximum service; coverage tables, facts on correct types of ready-mixed aluminum paints for metal, masonry, wood, inside or out—and for heated surfaces. A copy is yours for the asking, by return mail. Fill out this coupon and attach it to your letterhead.

MAIL THIS COUPON TODAY

ALUMINUM COMPANY OF AMERICA,
Paint Service Bureau, 1735L Gulf Bldg., Pittsburgh 19, Pennsylvania.
Please rush me free copy of "Painting with Aluminum".

Name (please print) _____
Address _____
City _____ State _____
We plan to paint the following: _____

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA ALBRON

For more details circle **NED-8470** on enclosed inquiry slip

The Relief Valve That Never Fails

LARGER DISCHARGE AREA
• EASILY ADJUSTED •
CONTINUOUS RELIABLE OPERATION

WON'T FREEZE

WON'T JAM

WON'T CHATTER

NO LEVERS • NO STUFFING BOXES
NO WEIGHTS

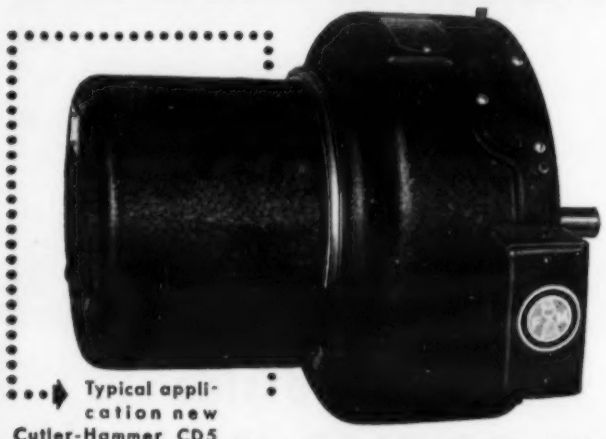
Write for a copy of Publication No. 4150

COCHRANE *Multiport*
BACK PRESSURE RELIEF VALVE

COCHRANE CORPORATION 3143 N. 17th St., Philadelphia 32, Pa.

For more details circle NED-8471 on enclosed inquiry slip

New Better Line of C-H DISC BRAKES



Typical application new Cutler-Hammer CD5 Disc Brake on Fairbanks, Morse & Co. axial air-gap motor.

CD4 size Disc Brake 3½ inches long, 1½ to 3 lb. ft. brake torque.

CD5 size Disc Brake 6¾ inches long, 10 to 35 lb. ft. brake torque.

CD8 size Disc Brake 7¹¹⁄₁₆ inches long, 50 to 75 lb. ft. brake torque.

For easy unit mounting on NEMA type C motor flanges, easy handling, installation, accessibility even in "tight corners"

Now, makers and users of motors have available a line of disc brakes that mount without modification on NEMA Standard Type C Motor Flanges. From 1½ to 75 lbs. ft. brake torque, for a.c. or d.c. service. Now, brakes can be mounted on a vertical shaft without modification.

These new Cutler-Hammer brakes are smaller, lighter, easier to handle, provide utmost compactness, easy mounting and accessibility, operating perfection and dependability.

Mounting plate that supports brake mechanism has standard mounting holes for NEMA type C motor flanges, also hole for leads from brake coil through motor to terminal box. Conduit openings are also provided. Wrap-around cover lifts off laterally, needs no brake end clearance. A simple fastener holds cover in place.

CD4 size has simple direct acting magnet member. Larger sizes are solenoid operated, with limited stroke for sure closing and no coil burn-out. Use of *single* disc provides snappy action, no drag and less wear. Brake lining is a solid disc with no rivets. CD4 never needs adjustment once it leaves the factory. Infrequently needed adjustment on larger sizes easily discovered, easily made. Manual release is optional on CD4, is standard with automatic reset on larger sizes and incorporates a lining wear indicator. Smooth, gray, steel cover harmonizes pleasingly with motor finish. CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CUTLER-HAMMER
MOTOR CONTROL
C-H

For more details circle NED-8472 on enclosed inquiry slip

New Processes & Materials

PATCHING CEMENT
for glass-lined reaction vessels

Having coefficient of expansion close to that of basic materials patched, Carbo-Fix 6050 corrosion-resisting cement can be used on glass-lined reaction vessels where heating and cooling cycles in range of 50 to 275° F are common. Its use without tantalum plugs is practical. Tests indicate patches last from 20 to 32 cycles before loosening. Three basic materials are mixed before application, and only exposed steel must be primed. Patch dries at room temperature but can be dried more rapidly under infrared lamp. Made by **Carboline Co.**, 7603 Forsyth Blvd., St. Louis 5, Mo.

For more details circle NED-8473 on enclosed inquiry slip

INDUSTRIAL FLOOR FINISH
provides slip-retardant surface

Affording high shine, water resistance and durability of self-polishing waxes, Shur-Tred floor finish develops slip-retardant surface on all types of floors where slip hazard exists. Finish is easily applied by standard methods and dries quickly to high gloss. Made by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

For more details circle NED-8474 on enclosed inquiry slip

SYNTHETIC FINISH
vinyl plastic has fast drying time

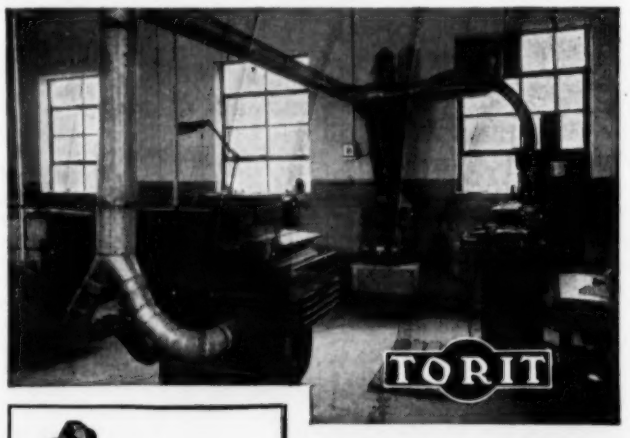
Recommended for use on iron, copper, gold, cadmium, chromium and nickel in addition to brass, base VC-38 clear fast-drying plastic synthetic finish can be tinted to give gold or brass appearance to steel or aluminum. It will air-dry sufficiently to handle in about 30 minutes and dry hard overnight. When baked at between 200 and 250° F in gas oven or under infrared lights, it will dry hard in 10 minutes. Applicable by dip or spray processes, it provides protection against perspiration, handling, marring and tarnish. Made by **United Lacquer Mfg. Corp.**, 1005 W. Elizabeth Ave., Linden, N. J.

For more details circle NED-8475 on enclosed inquiry slip

EXTRUSION MOLDING POWDER
is medium heat range acrylic

Recent modifications in Plexiglas VM extrusion grade acrylic molding powder have made it as easily handled for extrusion as for injection molding. Physical properties of powder are unchanged, but improved formulation enables extrusions by standard techniques with oven drying usually sufficient. Improvements assure high production rates without seed bubbles and 'fisheyes'. Made by **Rohm & Haas Co.**, 222A W. Washington Sq., Philadelphia 5, Pa.

For more details circle NED-8476 on enclosed inquiry slip



TORIT
Dust Collectors

Self-contained units for carrying away dust laden air from around grinding, cut-off and polishing machines. They are available in many styles and in sizes ranging up to 5 H.P.

Giving the old "One-Two" to the abrasive dust problem with a

TORIT DUST SEPARATOR

A one-nozzle set up as at the right, or the two-nozzle arrangement on the carbide tool grinder in the foreground—one machine or the other in operation—this Torit Dust Separator handles the dust problem efficiently, and requires little care and attention.

Compact, well arranged installations like this do not interfere with production. They mean better working conditions, higher output, and fewer rejects. That is why over 18,000 Torit units are working today in every type of American industry.

If you cut, grind or polish in your plant, you have a dust problem, and it will pay you to write Torit about it. We'll show you how it can be licked, and there'll be no obligation.

TORIT MANUFACTURING CO.
298 Walnut St., St. Paul 2, Minn.
P. S. Ask for latest Torit Catalog.

For more details circle NED-8477 on enclosed inquiry slip

WRITE TODAY!

DICO'S WHEEL CATALOG *Free!*

A UNIQUE CATALOG SIMPLIFYING YOUR WHEEL ENGINEERING PROBLEMS.

A MODERN LINE OF INDUSTRIAL WHEELS 6"-18" RUBBER DIAMETER

DICO CORPORATION
406 S.W. 16TH ST., DES MOINES 5, IOWA

For more details circle NED-8478 on enclosed inquiry slip

Cleveland Type F Air Vibrators Are Now Being Used In Various Manufacturing Processes, to Move Or Settle in Bulk:

Soap	Meat
Sawdust	Wood Chips
Ore	Candy
Fertilizer	Sand
Vegetables	Coal
Concrete	Dry Colors
Chipped Ice	Steel Chips

. . . . and countless other 'granulars.'

Catalog No. 105 will give you further details.

THE CLEVELAND VIBRATOR COMPANY
2745 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-8479 on enclosed inquiry slip

KETT TOOLS *Pay off...*

THE KETT POWER SAW ...A FIST-FULL OF CUTTING POWER

In the tool kit of every contractor, builder, or maintenance man . . . in every metal-working shop, the Kett Power Saw is a time and labor-saving necessity. Light-weight but rugged and powerful, the Kett tool zips with amazing ease and speed through most any kind of sheet material . . . mild steel up to 10 gauge, aluminum to 3/16", plastics and other soft material up to ¼" thick.

Immediate Delivery, Write to Dept. E-11 for full details and descriptive literature.

The KETT TOOL COMPANY
5 EAST THIRD STREET CINCINNATI 2, OHIO

For more details circle NED-8480 on enclosed inquiry slip

LESS DOWN TIME, MORE PRODUCTION FROM PUNCH PRESSES FED BY

LITTELL DOUBLE AUTOMATIC CENTERING REELS

Vital minutes are saved, with practically no down time for coil replacement, when a Littell Double Reel uncoils stock to the punch press. The idle side of the reel is loaded while the other side pays out. When a coil is used up, the operator simply lifts the hub lock pin, then swivels the reel 180°, thus placing the reserve coil in press feeding position. The change-over is complete in a few seconds. Like Littell Single Reels, Littell Double Reels combine balance that means smooth running accuracy with rugged malleable iron and steel construction that assures year in, year out dependability.

FOUR SIZES
No. 3 . . . . for coils up to 300 lbs.
No. 5* . . . . for coils up to 600 lbs.
No. 10* . . . for coils up to 1,000 lbs.
No. 25* . . . for coils up to 2,500 lbs.
*Can be furnished with motor drive

Write for catalog

F. J. LITTELL MACHINE CO.
ROLL FEEDS • DIAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES
4169 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

For more details circle NED-8481 on enclosed inquiry slip

A part of a piece of **farm equipment,** 72½"x 22", with 32 holes and nibbled cut-out was finished including setup in only 12.01 minutes, subsequent pieces in **2.32 min.**

Above circle, 24" in diameter with OD nibbled and 5 holes punched was produced in only 4.26 minutes including setup and subsequent pieces in only **2.38 min.**

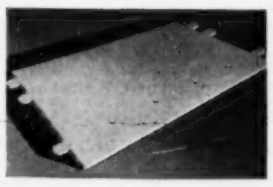
Can you match these
WALES FABRICATOR
TIME STUDIES *with your present methods?*

● These time studies were made under actual production conditions with average operators and were taken at random from hundreds of time studied parts.

There is nothing like this revolutionary Wales Fabricator. It punches, notches and nibbles. Wales exclusive Hydra-New-Matic Drive is unique in its simplicity of design and operation...so unique, in fact, that vibration and noise is practically eliminated at 165 strokes a minute. This drive plus the Wales patented "Quick-Change" System makes possible these startling "never-heard-of-before" time study figures.

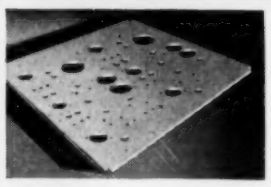
IT'S TOO BIG A STORY TO TELL ON THIS PAGE, so write for fully-illustrated, functionally-colored Catalog 10-A and discover for yourself why production schedules of this Fabricator have been more than doubled.

WALES-STRIPPIT CORP.
George F. Wales, Chairman
363 PATHE AVENUE, NORTH TONAWANDA, N.Y.
(Between Buffalo and Niagara Falls)
WALES-STRIPPIT OF CANADA LTD.
HAMILTON, ONTARIO
Specialists in Punching and Notching Equipment



The above piece of work, 22⅛"x 9½" with 4 holes and 2 sides notched and nibbled including setup was produced in only 6.10 minutes and subsequent pieces in only **1.2 min.**

An **electric refrigerator** part, 39⅞"x 8½" with 10 holes and 4 notches was fabricated including setup in only 5.61 minutes and subsequent pieces in only . . . . . **37 sec.**

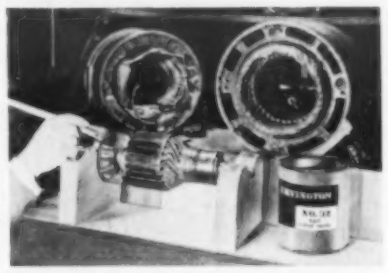


Above **electronic chassis,** 12½"x 11½", with 118 holes and 4 notches was completed including setup in only 32.45 minutes and subsequent pieces in only **6.44 min.**

For more details circle NED-8482 on enclosed inquiry slip

New Processes & Materials

INSULATING ENAMEL is fast-drying and oil-resistant



Tough resilient film with dielectric strength of 800 v per mil is formed by No. 32 Red Oilproof enamel. Applied by brush, it air dries to handle in 30 minutes and dries hard in 8 hours. Drying can be accelerated by low-temperature bake. Material bonds well to insulating materials and metals and can be used also to seal pipe-line joints and gaskets. Coating resists oils, moisture, chemicals, abrasive dust, greases and water. Made by **Irvington Varnish & Insulator Co.,** Dept. NED, 6 Argyle Terrace, Irvington 11, N. J.

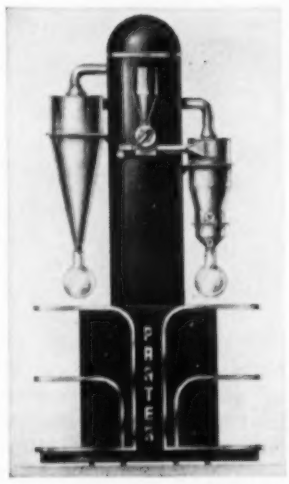
For more details circle NED-8483 on enclosed inquiry slip

PROTECTIVE PACKAGING MATERIAL is impregnated to inhibit corrosion

Acceptable under new government vapor phase packaging program, Chippaflex VPI flexible corrugated wrap has property of inhibiting metal corrosion while affording physical protection. It is impregnated with compound which is volatile, and its vapor in air surrounding metal objects offers protection in both dry and damp climates in all degrees of temperature without protective fluids. Material can be used as liner or insert in packages or as wrap itself, with no heat or adhesive seals required. Non-toxic in handling, wrap is available in 250-ft long 36-in. wide rolls as well as in sheets and sleeves of various sizes. Made by **Chippewa Paper Products Co.,** Dept. D, 3315 W. 48th Place, Chicago 32, Ill.

For more details circle NED-8484 on enclosed inquiry slip

PNEUMATIC CLASSIFIER separates finely-ground materials



When finely-ground materials are put into Dual Cone Fractionator they are classified into fine and coarse size particles. Coarse material is reclassified before discharge and additional 10 to 15 per cent of fines originally in raw material is reclaimed. Original separation can be made at any predetermined particle size by opening secondary air valve until desired product is obtained. Two control valves govern classifying action by admitting secondary air at strategic points. Fabricated of steel, galvanized steel, nickel, stainless steel or Monel, fractionator is built in 21 sizes from 500-lb per hour pilot plant to 20,000-lb per hour plant. Made by **Prater Pulverizer Co.,** 1510 S. 55th Ct., Chicago 50, Ill.

For more details circle NED-8485 on enclosed inquiry slip

FASTER DRAFTING

Actual tests prove that a Bruning machine can increase drafting speed by 40%. T-square, straightedge, triangles, protractor and scales are combined in one precision instrument. It eliminates time wasted in picking up and laying down tools, and makes accuracy both easy and *automatic!*

"Equipoise" models have the best gravity compensator ever devised for inclined board use. Touch Control Indexing is another exclusive Bruning feature.

FREE BOOKLET — Write today for 20-page booklet, "Bruning Drafting Machines." Charles Bruning Company, Inc., Dept. J-110, 100 Reade Street, New York 13, New York.

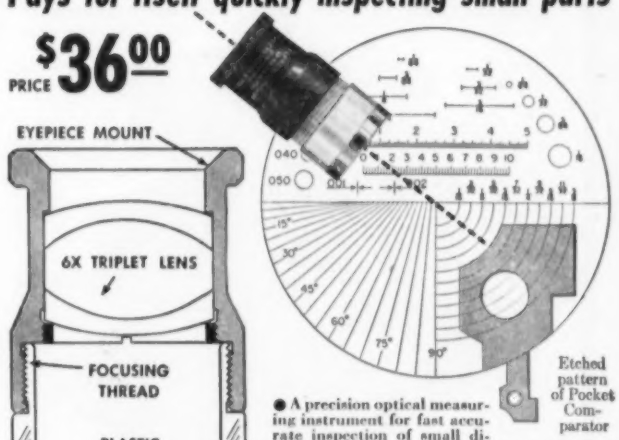
BRUNING DRAFTERS

For more details circle NED-8486 on enclosed inquiry slip

FRACTIONAL HORSE POWER
Gears..
INTERNAL, HELICAL, SPUR ELLIPTICAL, WORM and WORM GEARS. BEVELS, RATCHETS and SPROCKETS.
PRECISION WITH VOLUME PRODUCTION
Send for Bulletin
Rynel Corporation
302 MILLER ST. STERLING, ILLINOIS

For more details circle NED-8487 on enclosed inquiry slip

New POCKET COMPARATOR
Pays for itself quickly inspecting small parts
PRICE $36.00



● A precision optical measuring instrument for fast accurate inspection of small dimensions. The pattern or reticle is calibrated for measuring lengths, widths, circles, radii and angles.

The Pocket Comparator is ideal for measuring wear on all types of cutting tools—pays for itself quickly by preventing premature regrinding of expensive tools. Use it, too, for checking forms and dimensions of punches, dies, gauges, templates as well as radii, angles, chamfers, threads and small holes on production parts. Order today.

a product of BELL & HOWELL CO. *distributed by*

Write for FREE descriptive folder
See Your National Tool Co. Representative or Local Jobber
NATIONAL TOOL CO.
11210 Madison Avenue Cleveland 2, Ohio

For more details circle NED-8488 on enclosed inquiry slip

LESS THAN A DIME PER KEYWAY

WHEN YOU DO IT THIS WAY WITH THE *Minute Man*® KEYWAY BROACH

costing only $8.25 per broach and bushing —good for cutting 100 or more keyways in gears, cutters, hubs, collars, couplings, etc.

IN ONE MINUTE PER KEYWAY

MAIL THE COUPON

The du MONT CORPORATION
Greenfield, Mass.

Please mail Info Folder and Price List D, on Minute Man Kits for cutting keyways from 1/16" to ¾" wide in bores from ¼" to 3" by 1/16" steps.

Name .....

Company .....

Address .....

For more details circle NED-8489 on enclosed inquiry slip

K-P *Engineered* **WIRE MESH**

SIEVING, SIZING, SEPARATING, STRAINING and FILTERING in ALL INDUSTRIES

Korb-Pettit Wire Mesh is not only first quality in material and workmanship but is engineered for the job involved. Made in all ductile metals, meshes, and weaves, plain or rolled. Also available in abrasion, corrosion and rust resistant metals. *Write for Catalog No. 36.*

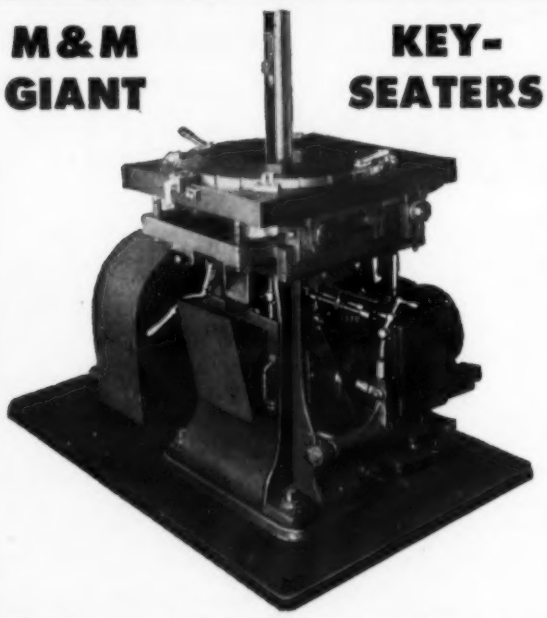
KORB-PETTIT
Wire Fabrics & Iron Works Inc.
Engineers and Manufacturers
1501 North Mascher St.
Philadelphia 22, Pa.

"Keeps Promises"

Wire Mesh, Spiral Woven Wire Conveyor Belts, Infra-Red Conveyor Dryers, Leather Finishing and Drying Machines, Industrial Wire Partitions, Machine and Window Guards, Cages, Enclosures, Grilles, etc.

For more details circle NED-8493 on enclosed inquiry slip

M&M GIANT KEY-SEATERS

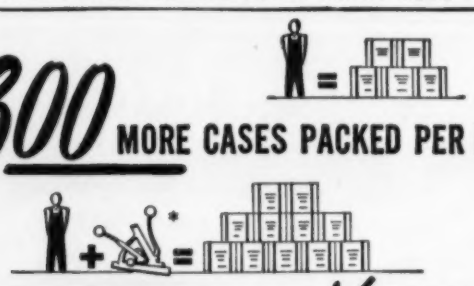


Giant Keyseaters, built in various sizes, speedily and accurately cut keyways or splines in pulleys, gears, and other machine parts. Special fixtures and cutters are available for those "hard-to-do" internal finishing operations which cannot be efficiently accomplished otherwise. Send us your problems.

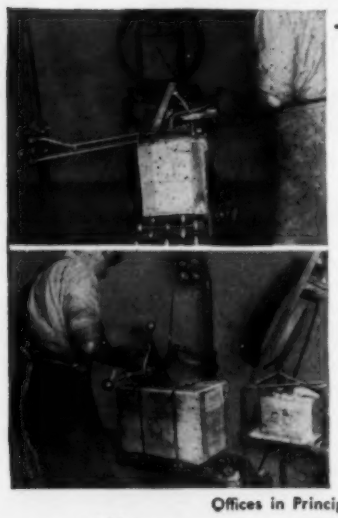
MITTS & MERRILL
1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

For more details circle NED-8494 on enclosed inquiry slip

300 MORE CASES PACKED PER DAY



—AT 1/3 LOWER COST



One manufacturer found that one man *plus* Stanley *ACE STRAPPING TOOL not only upped shipping rate from 250 packages a day to 550—also freed two other shipping room employees for more productive work.

Facts and figures like these from makers of hundreds of different products *prove* Stanley Steel Strapping System slashes shipping costs to the bone. Get details on the savings it can make for you now! The Stanley Works, Steel Strapping Div., 177 Lake St., New Britain, Conn.

Offices in Principal Cities

STEEL STRAPPING AND CAR BANDING SYSTEMS

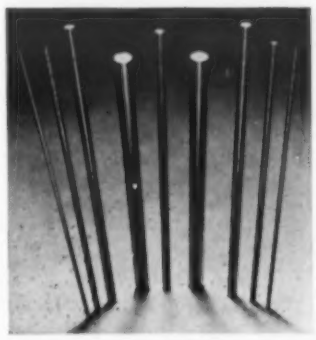
STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

For more details circle NED-8495 on enclosed inquiry slip

New Processes & Materials

TUNGSTEN ELECTRODES for inert gas-shielded welding



Having melting point of about 6000° F, Puretung welding electrodes are suitable for atomic-hydrogen and gas-shielded electric arc welding of wide range of metals. Formation of oxides, nitrides and other contaminants is prevented, and amount of electrode consumed in welding process is held to minimum. Electrodes afford fast welding without flux, narrow heat-affected sections, minimum distortion and good visibility of weld pool. Available in any diameter and length, electrodes are supplied with chemically-cleaned and etched finish or centerless ground finish for collet feeds on automatic equipment. For special applications, black graphite or other specified finish can be supplied. Made by **Sylvania Electric Products Inc.**, Tungsten & Chemical Div., Towanda, Pa.

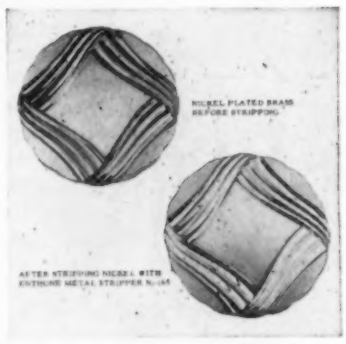
For more details circle NED-8496 on enclosed inquiry slip

FIRE FIGHTING FOAM CHARGE for protection against solvent fires

Recommended for special risks involving alcohol, ether, esters, acetone and related solvents, No. 99 foam charge creates foam that effectively covers and snuffs out flames in matter of seconds. It does not dissociate upon contact with polar solvents and is effective also on petroleum products. Material can be obtained in packages for use in 2½-gal extinguishers or 40-gal engines and in 50-lb pails for continuous foam generator systems. Made by **National Foam System, Inc.**, Dept. 99, West Chester, Pa.

For more details circle NED-8497 on enclosed inquiry slip

METAL STRIPPER removes nickel plate from copper

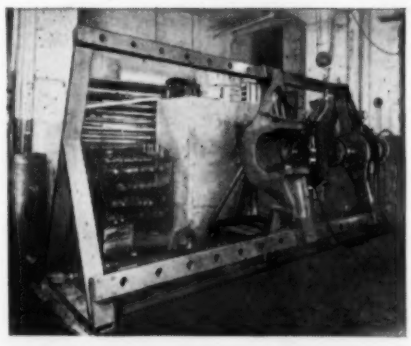


Nickel, tin, lead, and chromium can be stripped from copper, brass and other copper alloys without attack upon base metal by N-165 metal stripper. One pound of neutral powder stripper is added to each gallon of acid solution. When work is immersed in this solution, stripping rates as high as 0.006-in. per hour of nickel can be obtained. Stripping can be done at room temperature or at higher temperature if faster operation is desired. Process is not suitable for removal of nickel from steel or zinc base alloys. Made by **Enthone, Inc.**, Dept. NED, 442 Elm St., New Haven 2, Conn.

For more details circle NED-8498 on enclosed inquiry slip

FOR FAST, EFFICIENT PRESSING BENDING, FORMING, STRAIGHTENING . . .

New Rodgers FORCING PRESSES



Rodgers 300 Ton, 75° Inclined, Stationary Forcing Press being used efficiently to press an armature shaft.

. . . With These Features

Separate Pumping Units—Choose from individual hand-operated or power-driven pumps. ***Remote Control of Power Pumps***—Operator can control press from any desired position. ***Removable Hydraulic Cylinder***—Cylinder is easily removed from head member. ***Individual Frame Units***—Tracks, tension bars, abutment member and head member are all separate units. ***Expertly Engineered and Constructed***—All units are made strong, durable and dependable.

. . . In These Types and Sizes

Rodgers Versatile Forcing Presses are available in portable or stationary models—horizontal, vertical, 75° or 90° inclined—100 to 600 tons—with hand-operated or power-driven pumps.

. . . Power Pump
Rodgers 2-cylinder Power Pump with remote control.

Send for New Catalog 315

Rodgers Hydraulic, Inc.
HYDRAULIC POWER EQUIPMENT
7425 WALKER ST., ST. LOUIS PARK, MINNEAPOLIS 16, MINN.

For more details circle NED-8499 on enclosed inquiry slip

Aeroquip
SELF-SEALING COUPLINGS

With the installation of Aeroquip Self-Sealing Couplings, fluid-carrying lines can be disconnected without loss of liquid or inclusion of air upon reconnection.

Aeroquip Self-Sealing Couplings are suitable for lines carrying hydraulic fluids, oils, fuels, coolants or refrigeration gases. Write for further details.

Aeroquip for better performance, maintenance and service.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

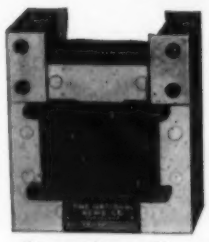
Eight strategically located sales offices and warehouses plus a nationwide dealer-distributor organization make Aeroquip Products quickly available everywhere.

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

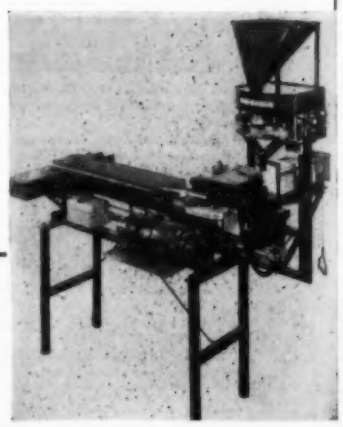
For more details circle NED-8500 on enclosed inquiry slip

WHERE PROFIT DEPENDS UPON PRECISION PERFORMANCE—*FAST*

Plageman Picks NAMCO "Stellite"-Welded SOLENOIDS



Five pull-type Namco "Stellite"-Welded Solenoids, in sizes of from 2 1/2 pounds, 1/2" stroke to 11 pounds 1" stroke, are used on the Plageman Pack-A-Matic seed packaging machine.



The Pack-A-Matic automatic seed packaging machine manufactured by Plageman Enterprises, Willoughby, Ohio, has a capacity of up to 4500 packages per hour.

Up to 4500 packages per hour! That's the capacity of this seed packaging machine. It means 4500 complete cycles every hour—4500 chances to lose money through improper functioning. No wonder precision performance is a "must".

That's why Plageman Enterprises has standardized on Namco "Stellite"-Welded Solenoids to activate key operations of this Pack-A-Matic automatic seed packaging machine. Instantaneous and positive action of each of five Namco Solenoids safeguards the perfect timing and sequence of the complete machine cycle. And close ones aren't good enough—each motion must be "on the nose" to prevent jamming.

If you have similar key operations on your products—points where you need a push or a pull of up to 25 pounds—it will pay you to investigate Namco Solenoids. They're tops for rugged mechanical construction, for dependable fast operation, for low current consumption. May we show you how they can be engineered for your specific application?

ELECTRICAL MANUFACTURING DIVISION
182 EAST 131st STREET • CLEVELAND 8, OHIO

NATIONAL ACME
CLEVELAND, OHIO

For more details circle NED-8501 on enclosed inquiry slip

NEW! DODGE SLIDE-SET VISE

Cut-away view

SLIDES IN "NEUTRAL"!
INSTANT ACTION!
GRIPS CONVENTIONALLY!
FULL POWER!

● Entirely new in principle, with patented fast slide action that speeds work, reduces operator fatigue, saves wear on parts. All the power of a heavy conventional vise (weighs 58 pounds). Jaw slides in "neutral" before you lock it by turning handle in conventional way. No tedious "spinning" in and out. No-Pinch handle protects against blood blisters. Every Dodge Slide-Set pays dividends in greater efficiency and production. *Write now for free Bulletin.*

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Indiana

DODGE of Mishawaka, Ind.

▲ For more details circle **NED-8502** on enclosed inquiry slip ▲

for forced hot water systems

Here's a simple, practical method for transferring heat from steam or boiler water to a separate hot water radiation system. The General Converter gives maximum heat transfer efficiency with the lowest frictional resistance . . . and at very moderate cost.

General Converters have found wide application in industrial plant offices, apartment buildings, radiant heat installations, etc. Construction features include welded steel shell, cast iron head, and heavy-wall, drawn, seamless copper tubing. Guaranteed for working pressures to 125 lbs. Converters available in 26 capacities from 15 to 1190 gpm. For full details, write General Fittings Co., Department I, 123 Georgia Avenue, Providence 5, R. I.

GF GENERAL

TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

▲ For more details circle **NED-8503** on enclosed inquiry slip ▲

Premium TRANSFORMER PROTECTION

● Full Electrical Protection ● Signal Light Indication
● Efficient Loading ● Service Continuity

THE ACP TRANSFORMER is a good investment in transformer protection against electrical damage. It gives you maximum protection and the service continuity you need in concentrated load areas.

A secondary breaker mounted internally allows much of the unused safety margin capacity to become part of the actual transformer rating. Gives you more kva output per kva transformer rating. Permits loading much closer to the actual limit of the windings.

Lightning arresters give high voltage surge protection. Breaker reset handle makes it easy to energize the load. Signal light gives visual check on loading.

For more details call your nearby A-C sales office. Or write direct. Ask for bulletin 61B7309A. A-3186

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS.

ACP (Allis-Chalmers Protected) is an Allis-Chalmers trademark.

ALLIS-CHALMERS A-C

▲ For more details circle **NED-8504** on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC ROOF COATING sprayed-on type dries in 20 minutes

Based on Vinylite resins, this protective coating for roofs subject to extreme weathering and manufacturing conditions is resistant to moisture, abrasion and most acid fumes. It possesses good insulating properties and will not support combustion. Applied by standard pressure spraying equipment, material has inherent tensile strength and elasticity to withstand severe temperature changes. It can be used to repair old roofs built up with pebbles as illustrated or for new roofs to seal cracks before final coating. It can also be used to seal rough walls or on felt or pitch roof. Made by **R. M. Hollingshead Corp.**, 870 Cooper St., Camden 2, N. J.

▲ For more details circle **NED-8505** on enclosed inquiry slip ▲

LIQUID CASTING RESIN duplicates tools and models

Economical production of checking fixtures, hydraulic and stretch press dies, jig bases, master models, Keller patterns and acrylic form dies are possible with this '8000' Tool-Plastic liquid phenolic casting resin. Resin is intended for use with accelerator paste of which two types are available: '8000' paste and Quick-Set paste. Quick-Set paste-resin mixture is suitable for repair work or emergency production and sets up immediately at room temperature. Cure time for standard mix of 25 parts of paste to 100 parts resin is overnight at 190° F. Pressure is not required, and finished part is infusible and insoluble, has impact strength of 0.24 to 0.3 and specific gravity of 1.26. Obtainable from **Rezolin, Inc.**, Dept. N, 4825 W. Jefferson Blvd., Los Angeles, Calif.

▲ For more details circle **NED-8506** on enclosed inquiry slip ▲

SEALING COMPOUND for threaded joints and gaskets

Capable of resisting wide range of chemicals and solvents including aromatic and chlorinated types, gasoline, refrigerants and industrial hydrocarbons, Leak Lock poly-hydroxylated plastic base sealing compound forms elastic film that will flex with vibrations and retain smooth nonporous skin. It sets up very quickly and prevents loss of liquids or gases. Dielectric properties of compound enable it to be used both as sealer and insulator. It is supplied in nonclogging tubes and cans. Made by **Highside Chemicals Co.**, 11 Colfax Ave., Clifton, N. J.

▲ For more details circle **NED-8507** on enclosed inquiry slip ▲

...You Get Exclusive Extra-Wear Features in

New Heavy-Duty PIONEER STANZOIL® BLACK NEOPRENE Coated Canvas Gloves

Exclusive PIONEER Non-Slip Grip Holds wet things as if dry.
Curved Fingers Extra comfort and efficiency.
Preflex Palm Design Prevents wear from bunching.
Inserted Thumb Design No inside seam to wear through quickly.
Heavy Black Neoprene Coating Liquid resistant, durable.
Glove is full weight 8 oz. canton flannel Comfort, long wear.

Those six features mean far more glove service for your money. Heavy-Duty STANZOILS not only wear and wear on heavy-duty jobs, but give real hand protection, extra resistance to oils and acids. And they enable workers to do more work with less effort. Write today for information and prices on this line of Heavy-Duty STANZOIL DuPont neoprene coated canvas gloves. *The Pioneer Rubber Company, 634 Tiffin Road, Willard, Ohio.*

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

▲ For more details circle **NED-8508** on enclosed inquiry slip ▲

for ● SPRAYING ● WASHING ● RINSING ● COOLING ● AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.

Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.

Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for Bulletin N-616.

YARWAY SPRAY NOZZLES

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.

▲ For more details circle **NED-8509** on enclosed inquiry slip ▲

B.F.Goodrich

Let this man analyze your tire and wheel problems

He's impartial—unbiased—because he has the ONLY COMPLETE LINE

TW TIRE AND WHEEL ANALYSIS PLAN will cut your costs

YOU can save up to half of your industrial tire and wheel costs. The local B. F. Goodrich man who specializes in such service will, without obligation, survey your operation, study loads, hauls, equipment, floors and hauling surfaces. He will then recommend the best type, size, tread and compound for your work. He will make suggestions on tire care and maintenance.

His recommendations are impartial because only B. F. Goodrich offers a *complete* range of types, tread designs and compounds. You have 14 types of tires, 7 different tread compounds and a full range of sizes. Mail the coupon now and start saving.

A similar service is available for manufacturers of industrial hauling equipment.

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

The B. F. Goodrich Co.
Department TW-73
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.
Name_____
Title_____
Company_____
City_____ State_____

▲ For more details circle **NED-8510** on enclosed inquiry slip ▲

LYON-Raymond
HYDRAULIC
Pallet Lift Trucks

Furnished in Several Models to Fit Your Needs

1. Streamlined Lightweight Models: For fast handling and maneuvering the lighter pallet loads.
2. Heavy Duty Models: For pallet loads up to 4,000 lbs. — Also 6,000 lb. capacities.
3. Electric Tiering Models: New — Different — The Shortest — The Lightest — The Most Maneuverable of any powered Pallet Tiering Truck.

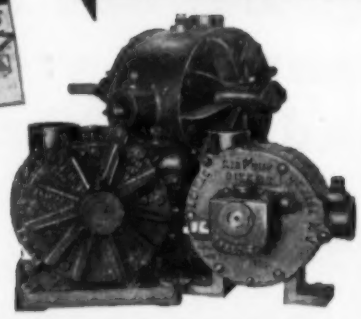
See our demonstration of Electric Tiering and Hand Pallet Trucks at the Power Show, New York City, November 27th through December 2nd.

LYON-Raymond CORPORATION
Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning . . . Sheet and Die Handling

4133 Madison St. GREENE, N.Y.

For more details circle NED-8511 on enclosed inquiry slip

PUT AIR POWER from LEIMAN AIR PUMPS TO WORK FOR YOU



WHAT DO YOU KNOW ABOUT AIR POWER?

Do you know that you can make use of AIR POWER in any of three forms?

VACUUM . . . furnished by a Leiman Air Pump can be used for lifting, holding, or transferring light materials, liquids, or gases.

PRESSURE . . . furnished by a Leiman Air Pump is perfect for materials, gases, or liquids which must be blown, agitated, or separated.

POWER SOURCE . . . use an explosion-proof Leiman Air Motor for instant and variable speed control of mixers, agitators, feeders, testing apparatus, etc. No speed-change gearing needed.

Investigate AIR POWER today. Send for new 16 page Catalog of Leiman Air Pumps, Gas Pumps, and Air Motors.

LEIMAN BROS., INC., 167-L Christie St., Newark 5, N. J.
AIR MOTORS • GAS BOOSTERS • DUST COLLECTORS • SAND BLASTS

For more details circle NED-8512 on enclosed inquiry slip

2160 Holes Per Hour!

WITH SPECIAL Atlas DRILL PRESS SET-UP

If you're looking for a fast way to drill small parts investigate Atlas Drill Presses, whose speed, ruggedness, accuracy, and all-around dependability team up efficiently with special fixtures for profitable production drilling.

For example, General Gas Light Co. of Kalamazoo, Mich., uses an Atlas Drill Press with automatic feeding device to drill 4 holes in brass valves at the rate of 9 pieces a minute —2160 holes per hour! A cam in the feed mechanism drives a rack which operates a pinion connected to the drill press feed spindle. The operator simply positions the work—the Atlas and the automatic feed do all the rest.

There may be dozens of such profitable uses for Atlas drill presses in your production. Send for a catalog today.

New Catalog NOW AVAILABLE! SEND FOR YOUR FREE COPY TODAY!

ATLAS PRESS CO.
1123 N. PITCHER ST.
KALAMAZOO, MICH.

For more details circle NED-8513 on enclosed inquiry slip

New Literature and Catalogs

Industrial Equipment

Jeffrey Co.—"What We Make" is title of 48-page illustrated guide to equipment manufactured by this company and its associates. Products briefly described include chains, sprocket wheels, transmission machinery, conveying equipment, feeders, vibrating screens, processing equipment, magnetic separators, pulverizers, crushers, shredders, foundry equipment, mining machinery, fans and materials handling equipment.

For more details circle NED-8514 on enclosed inquiry slip

Aluminum Bronze

Ampco Metal, Inc. — 12-page illustrated bulletin 66a covers recommended practices for machining and finishing all grades of Ampco Metal aluminum bronze. Tool design and inspection are discussed. Table gives data on machining of Ampco-Trode weld deposits.

For more details circle NED-8515 on enclosed inquiry slip

High Speed Shapers

Western Machine Tool Works—Features of 12 and 15-in. Steptoe-Western high speed shapers are explained in 8-page illustrated catalog 5021. Machine has 18 speeds and operates at up to 200 strokes per minute.

For more details circle NED-8516 on enclosed inquiry slip

Conveyor Idlers

Conveyor Co.—Information on troughing idlers and return idlers for belt conveyor lines are described in two illustrated folders. These permanently lubricated units are available with Timken roller bearings and New Departure ball bearings.

For more details circle NED-8517 on enclosed inquiry slip

Tubular Furniture

Empire Furniture Mfg. Co.—All types of chrome-plated tubular chairs and tables for industrial and institutional use are shown in full color in 8-page illustrated folder "Bondchrome." Chairs have Duran plastic upholstery, and tables have Micatex tops.

For more details circle NED-8518 on enclosed inquiry slip

Surface Grinder Accessories

Taft-Peirce Mfg. Co.—Attachments and accessories for use with Taft-Peirce and other surface grinders are described in 16-page illustrated catalog No. 310. Among products covered are Vernier fine-feed attachments, index grinding fixture, grinding spindle, wheel dressers and magnetic chuck.

For more details circle NED-8519 on enclosed inquiry slip

Insulating Tape

Minnesota Mining & Mfg Co.—Material designed to protect 3 to 36-in. diameter pipelines against corrosion by water, salt water, acids, alkalies and soils are described in 4-page illustrated brochure "Scotch Electrical Tape No. 22." Usable above or below ground, tape has high dielectric strength and insulation resistance.

For more details circle NED-8520 on enclosed inquiry slip

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
73 Maple Street, Orange, Mass.

*Reg. U.S. Pat. Off.

For more details circle NED-8521 on enclosed inquiry slip

For HEAVY DUTY WORK! Severest Electrical Services

P-506-CE—Plug with Cap

S-506-DB Socket with deep Bracket

JONES PLUGS & SOCKETS
500 SERIES
Proven Quality!

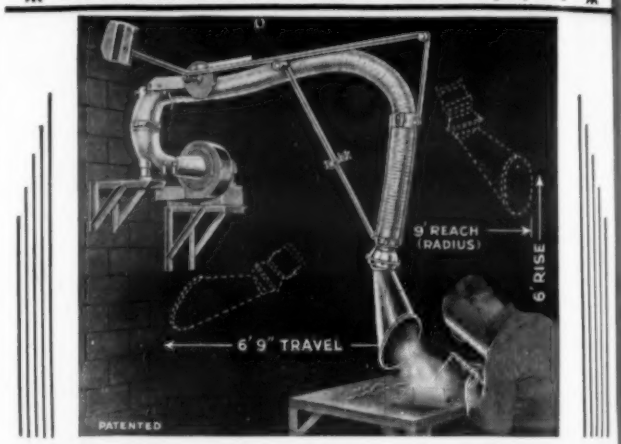
For 5,000 Volts, 25 Amperes per Contact Alterable by circuit Characteristics.

Socket contacts of phosphor bronze, knife-switch type, cadmium plated. Plug contacts hard brass, cadmium plated. Made in 2, 4, 6, 8, 10, and 12 contacts. Plugs and sockets polarized. Long leakage path from terminal, and terminal to ground. Caps and brackets, steel parkerized (rust-proofed). Plug and socket blocks interchangeable in caps and brackets. Terminal connections most accessible. Cap insulated with canvas bakelite.

Write for Jones BULLETIN 500 for full details on line.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-8522 on enclosed inquiry slip



RUEMELIN Fume Collector

Removes Welding Fumes at the Source...

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws out noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore, greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

Free engineering service for your fume collector installation. Write for New Bulletin 37-D.

RUEMELIN MFG. CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

A 5258-¼R4

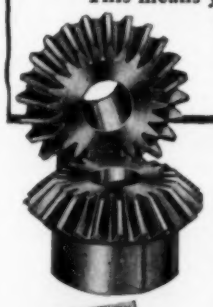
For more details circle NED-8523 on enclosed inquiry slip

Important Notice to DESIGN ENGINEERS

ALL BOSTON STEEL MITER GEARS ARE NOW CUT

20° Pressure Angle
Quieter — Longer Life

This means you can often use finer pitch, more compact, less expensive gears for any given load. They'll *run quieter — last longer.*



Design these new and better gears into your equipment. They are *in stock* at eighty Boston Gear distributors. Ask the one nearest you to show you a pair of these new 20° Pressure Angle Miter Gears. His name and a copy of the new Boston Gear Catalog No. 55 are yours on request.

BOSTON Gear stocks are Near

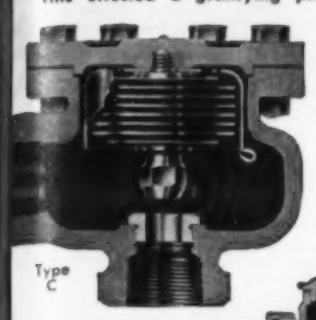
BOSTON GEAR WORKS
69 HAYWARD ST., QUINCY 71, MASS.

For more details circle NED-8524 on enclosed inquiry slip

Nicholson Steam Traps

CUT HEAT-UP TIME 48%

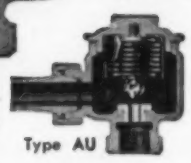
A large processor recently reduced the heating cycles of cookers from 1¾ hrs. to 50-60 min., by substituting Nicholson thermostatic steam traps for a mechanical type. This effected a gratifying production increase of 37%.



Reasons for Nicholson's faster heat transfer: operate on lowest temperature differential; 2 to 6 times average drainage capacity; maximum air venting.

5 TYPES FOR EVERY APPLICATION, process, heat, power. Sizes, ¼" to 2"; press. to 225 lbs.

Type C



Type AU

Type AHV

BULLETIN 450 or see Sweet's

W. H. NICHOLSON & CO. 162 OREGON ST. WILKES-BARRE, PA.

Sales and Engineering Offices in 53 Principal Cities

For more details circle NED-8525 on enclosed inquiry slip

CUT YOUR PACKAGING COSTS

ONE MACHINE MAKES THE BAG FROM A ROLL OF STOCK—FILLS—SEALS

Bartelt

By combining standard base machines with standard filling, counting, or measuring devices Bartelt can produce economically a "tailor-made" machine ready to handle your particular requirements. This machine can produce a bag from any heat-sealing film, paper or foil. Everything from hardware to soup-mix can be packaged. Send us your packaging problems for analysis.

Automatic • Versatile • Fast

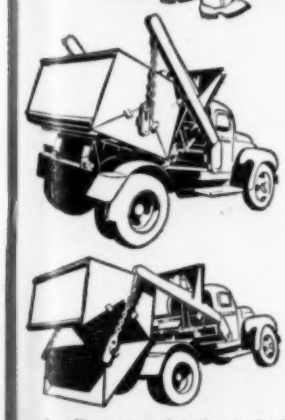
Write for details today

BARTELT ENGINEERING COMPANY
323 Madison St., Rockford, Illinois

For more details circle NED-8526 on enclosed inquiry slip

For Drastic Savings In Materials Handling Costs

DEMPSTER DUMPSTER SYSTEM



Firms everywhere using the Dempster-Dumpster system report tremendous savings in materials handling costs. One plant saves more than $70,000 annually; another saves $50,000, in scrap and trash handling alone. Quick pick-up, hauling and dumping of detachable containers makes one Dempster-Dumpster truck hoisting unit worth 5 to 10 conventional trucks. One man (the driver) and a truck handle any number of standard or special containers, 3 to 10 cu yds. . . built to handle any type of material. Illustrations from top to bottom show typical pick-up, hauling, and dumping operations. Write for catalog 247 today.

DEMPSTER BROTHERS, Inc.
4110 N. KNOX
KNOXVILLE 17, TENNESSEE

For more details circle NED-8527 on enclosed inquiry slip

New Literature—Continued

Industrial Water Treatment

Hall Laboratories, Inc. — 12-page illustrated booklet "Your Most Important Raw Material" discusses such industrial water problems as procurement, treatment, usage and disposal. Facilities and services offered in coping with them are described and charted.

For more details circle NED-8528 on enclosed inquiry slip

Press Brakes

Airtherm Mfg. Co.—12-page illustrated catalog 904 gives specifications of line of Metalworker press brakes for bending, piercing, curling, beading, forming, blanking, straightening and many other operations in all types of sheet metal.

For more details circle NED-8529 on enclosed inquiry slip

Dry Cyaniding

Surface Combustion Corp. — Latest developments in modern dry gas cyaniding are presented in 4-page illustrated bulletin SC-145. Various applications of process such as liquid quenching and slow cooling are listed.

For more details circle NED-8530 on enclosed inquiry slip

Tube Forming

Calumet & Hecla Consolidated Copper Co., Wolverine Tube Div.—28-page illustrated brochure "Spun End Tubing" deals with method of forming tube which combines reducing, necking, closing, fabricating, etc. Process produces one-piece tubular parts with closed or partially closed ends.

For more details circle NED-8531 on enclosed inquiry slip

Skids & Boxes

Lanham Co.—10-page illustrated circular "Skid Platforms" covers Re-Nu Top skid platforms, Cowan design skids, Featherweight skids, sectional bins, skid boxes and special types of parts handling equipment.

For more details circle NED-8532 on enclosed inquiry slip

Mold-Making Resins

Union Carbide & Carbon Corp., Bakelite Div.—16-page illustrated booklet is entitled "Bakelite Phenolic Resins for the 'Croning' Process." Powdered heat-reactive phenolic resins are employed as binders for foundry sand in production of both cores and molds.

For more details circle NED-8533 on enclosed inquiry slip

Variable-Pitch Sheaves

Allis-Chalmers Mfg. Co.—12-page illustrated bulletin 20B7223A deals with Automatic Vari-Pitch drive for speed control variation of approximately 2 to 1. Available in sizes from 1½ to 40 hp, drive is controlled by moving motor toward or away from driven sheave to change speed.

For more details circle NED-8534 on enclosed inquiry slip

Air Compressors

Ingersoll-Rand Co.—8-page illustrated form 1048 describes series T stationary air compressors driven by electric motor or gasoline engine. Two types are available: one designed for normal industrial pressures of 100-125 psi and other rated at 200 psi for continuous service and up to 250 psi on intermittent pump-up service.

For more details circle NED-8535 on enclosed inquiry slip

CUT CLEANING COSTS as much as 90%

WITH HYPRESSURE Jenny STEAM CLEANER

IT'S 10 TIMES FASTER THAN HAND-CLEANING

In any plant, shop or factory, in any industry, Hypressure Jenny cuts and flushes away dirt and grease from machines, tools, floors and walls . . . cleans windows, skylights, lavatories, etc., in one-tenth the time it takes to clean by hand. That means a 90% reduction in cleaning costs; a cleaner, safer plant; increased production; lower fire insurance rates. And it can mean fewer costly shut-downs, because periodic Hypressure Jenny steam cleaning often reveals unsuspected flaws and defects in equipment before failures occur. And when repairs are necessary, actual time studies reveal up to 40% savings in man-hours when Hypressure Jenny is used to clean equipment *before* mechanics start working on it.

HYPRESSURE JENNY CLEANS—Machinery • Conveyors • Engines • Transformers • Hoists • Trucks • Tank Cars • Cranes • Shafts • Belting • Compressors • Buildings • Floors • Walls • Windows • Etc., Etc.

THIS BOOKLET TELLS THE COMPLETE STORY—IT'S FREE—SEND FOR IT TODAY

HYPRESSURE JENNY DIVISION
Homestead Valve Manufacturing Co.
"Serving Since 1892"
P. O. Box 84 Coraopolis, Pa.

For more details circle NED-8536 on enclosed inquiry slip

FREE BOOKLET

shows how 15 products are improved with G-E Glow Lamps!

SEE specific suggestions for improving the usefulness and sales appeal of home appliances, wiring devices, industrial equipment with G-E Neon Indicator Glow Lamps. Glow Lamps give off practically no heat, require a minimum of current, withstand severe vibration and shock, generally last for the life of the product.

WRITE NOW for this free, informative booklet to Lamp Department, Div. 166-NED 11, General Electric Company, Nela Park, Cleveland 12, Ohio.

You can put your confidence in—

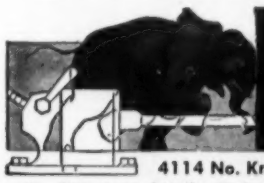
GENERAL ELECTRIC

For more details circle NED-8537 on enclosed inquiry slip

Cut Costs with MEAD MIDGET AIR CLAMPS

Horizontal and Vertical!

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. *Advantages over mechanized clamps:* 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point. Send for new Mead AIR POWER Catalog, describing our line of Air Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.



MEAD SPECIALTIES COMPANY

4114 No. Knox Ave., Dept. N-110-A, Chicago 41, Ill.

For more details circle NED-8538 on enclosed inquiry slip

Where "SMALL WORK" GRINDING JOBS are concerned Depend on Foredom

FLEXIBLE SHAFT MACHINES

for TOP PERFORMANCE VERSATILITY and SPEED!

Quality Tested Since 1922

Model 9050 ONLY $29.60 COMPLETE with 6-STEP FOOT RHEOSTAT and PENCIL-SIZE HANDPIECE

Bench and Hang-Up Models, also models like Model 9050 *(illustrated)* which can be hung up, set on bench or mounted under bench. 5 Handpiece types, pencil-size or larger, all with quick-detachable feature. Extra good flexing qualities provide utmost freedom of movement in handpiece.

Foredoms are profitable additions to all three departments—Production, Tooling and Maintenance.

See Your Industrial Supply Distributor. If he cannot supply you, write to us. Mail coupon for catalog.

FOREDOM ELECTRIC CO. Dept. 5235
27 Park Place, New York 7, N. Y.
Send your Catalog No. 5235, showing different uses of Foredom Flexible Shaft Machines.
Name .....
Address .....
City & Zone ..... State .....

For more details circle NED-8539 on enclosed inquiry slip

Highly Abrasive Materials are no threat to ROCKWOOD Ball VALVES

- LEAK PROOF SERVICE
- FULL ROUND FLOW
- EASY TO OPERATE
- NO MAINTENANCE

Foreman at Iroquois China Company, Solvay, New York, says "Rockwood Ball Valves are operated 40 times a day handling a mixture of clay and water. Each Valve has performed better, operated easier and lasted longer than any other valve we ever used."

When using the conventional type valve, the Iroquois China Company found the turbulence created in the valve would add air to the "slip" and cause pin holes in the finished product. Also, the "slip" would accumulate in the bonnet and prevent full opening and tight closing. Rockwood Ball Valves eliminate this trouble. Rockwood Ball Valves are also successfully performing on glaze operations, where a mixture of ground glass and water is used.

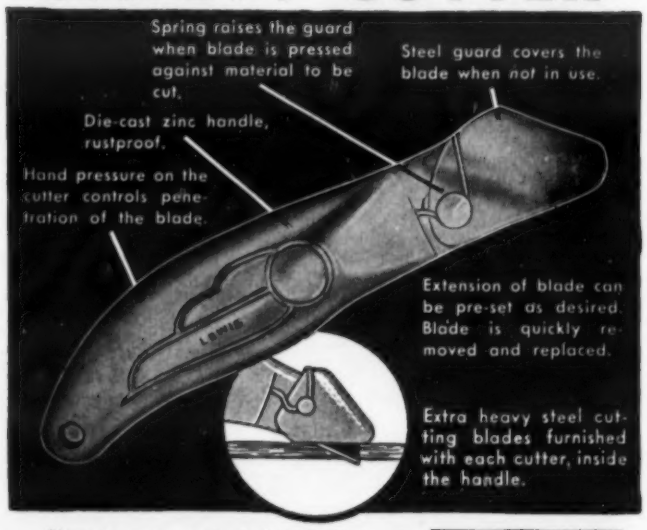
A valve with these qualities will give top notch performance in your plant — why not install one today and be convinced.

Available for 300 p.s.i. working pressure in all pipe sizes from ½" to 4". *Distributors in all principal cities.*

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

For more details circle NED-8541 on enclosed inquiry slip

LEWIS Automatic SAFETY CUTTER



Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

For more details circle NED-8542 on enclosed inquiry slip

VIBRA-FREE*
CARBIDE TIPPED MEYCO SAWS

You will be interested in this radically new development IF your carbide tipped saws sound like a police siren; IF they develop a "snaky" cut after short usage; IF they dull fast because carbide tips become chipped.

MEYCO VIBRA-FREE* saws embody a new principle in saw design, a new control over vibration by the use of sound absorbing dampers, which eliminate excessive vibration, excessive noise . . . produce smoother cuts, longer blade life, longer life for carbide tips. You get MORE cuts between sharpenings and operators LIKE to use Vibra-Free* blades. Investigate this revolutionary development TODAY. Write for full information and price list:

* Patent Applied For.

19

62 YEARS OF FINE CUTTING TOOLS — W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-8543 on enclosed inquiry slip

New Literature—Continued

Power Shovels & Cranes

Thew Shovel Co.—18-page illustrated catalog on Lorain-TL series of power shovels and cranes discusses applications of these ½ and ¾-yd machines which can be crawler or rubber-tire mounted according to ground and travel needs.

For more details circle NED-8544 on enclosed inquiry slip

Speed Reducers

De Laval Steam Turbine Co., Imo-De Laval Products Div.—32-page illustrated bulletin G-WBV covers latest revised AGMA horsepower ratings of Imo-DeLaval worm gear speed reducers of single-reduction horizontal or vertical type. Complete data are given to aid in selection and application of proper unit for given task.

For more details circle NED-8545 on enclosed inquiry slip

Vertical Turbine Pumps

Deming Co.—20-page illustrated bulletin 4700 shows construction features, available drives and typical installations of deep well turbine pumps which range in capacity from 12 to 3000 gpm. Application and installation data are given on units for irrigation, air conditionng, dewatering, sump pumping and petroleum handling services.

For more details circle NED-8546 on enclosed inquiry slip

Compression Pipe Fittings

Dresser Industries, Inc., Dresser Mfg. Div.—How Dresser flexible compression fittings are used to join up to 2-in. diameter pipe without threading is demonstrated in 12-page illustrated bulletin 505. Permanently tight, flexible joints can be formed on small piping in less than a minute with these compression fittings which include couplings, ells, tees and male and female adapters.

For more details circle NED-8547 on enclosed inquiry slip

Bridge Ramps

Penco Engineering Co.—Both lightweight magnesium and heavy duty steel ramps for use between loading docks, platforms and trucks or railroad cars are described in 4-page illustrated folder "Cut Loading Dock Costs." Details of tilting type stationary and portable drum racks are given also.

For more details circle NED-8548 on enclosed inquiry slip

Abrasive Wheels & Disks

Charles H. Besly & Co.—50-page illustrated pocket catalog details design and application of Besly-Titan abrasive wheels and disks. Included are tables of peripheral speeds at various rotating speeds, maximum speeds for resinoid bonded abrasives, grades and markings and merits of resinoid bonds.

For more details circle NED-8549 on enclosed inquiry slip

Bonderized Steel

Armco Steel Corp.—Methods of fabricating and finishing electrolytically zinc coated and Bonderized sheet metal are outlined in 12-page illustrated guide book entitled "In the Shop With Armco Cold Rolled Paintgrip." How to retain surface properties of this metal that takes and holds paint is explained.

For more details circle NED-8550 on enclosed inquiry slip

. . . the new separable FLEXCO HINGED BELT FASTENERS

U. S. Patent No. 2,477,855

- For joining grader, trencher, ditcher and other earth moving conveyor belts.
- For belts ⅜" to ½" thick.
- A FLEXCO fastener that is HINGED. Has removable hinge pin.
- Troughs naturally, operates through take-up pulleys.
- Strong, durable . . . pull or tension is distributed uniformly across joint.

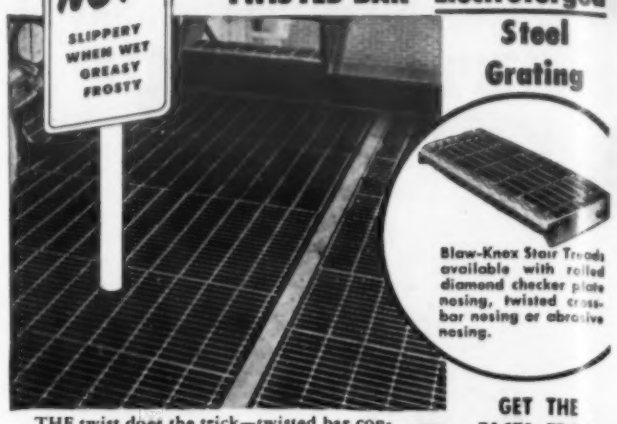
Order From Your Supply House. Ask for Bulletin HF 500.

FLEXIBLE STEEL LACING CO
4664 Lexington St., Chicago 44, Ill.

For more details circle NED-8551 on enclosed inquiry slip

NOT SLIPPERY WHEN WET GREASY FROSTY

Because it's BLAW-KNOX "TWISTED BAR" Electroforged Steel Grating



THE twist does the trick—twisted bar construction gives greater traction, makes slipping impossible even if the grating is wet, greasy or icy. The slightly roughened surface grips shoe soles for *extra* safety, yet the over-all surface is level. Trucks and other wheeled vehicles roll freely. In addition, Blaw-Knox Steel Grating is electroforged into one piece for extra strength and durability.

OTHER ADVANTAGES: Maximum open area for light and air. Self-cleaning, easy to maintain, economical to install.

GET THE FACTS FROM BULLETIN 2296

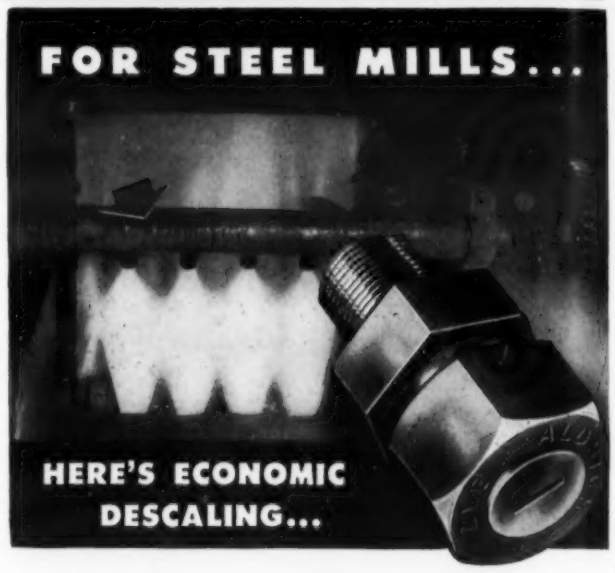
Big new bulletin gives complete details, specifications, possible applications and all the outstanding advantages of Electroforged Steel Grating and Stair Treads. Write for your copy today!

BLAW-KNOX DIVISION of Blaw-Knox Company
2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL GRATING

For more details circle NED-8552 on enclosed inquiry slip

FOR STEEL MILLS...



HERE'S ECONOMIC DESCALING...

The Aldrich Patented Spray Nozzle applies a knife-edged *line* of water which effectively loosens and removes scale. The sharp jet gives 95% utilization of energy; less water is required and less cooling of the steel results. Economically you gain. Write today for details—or place your order.

THE ALDRICH PUMP COMPANY
ALDRICH 4 GORDON STREET • ALLENTOWN, PA.

For more details circle NED-8553 on enclosed inquiry slip

Another case where MULTIPRESS* DOUBLES PRODUCTION

Up from 700 per hour to 1500 per hour! That's the gain made on this riveting job with a 25-ton Multipress and Index Table.

The operation assembles a screw in an insulator base. The operator inserts a screw in each base as she places one of the latter in each of the six indexing table fixtures. *Multipress does the rest!*

Parts are automatically indexed to the press ram, and riveted. As they move to the next station, they are loosened from the fixtures by two steel pins operating on a cam within the table housing. At the ejection station, a ram-activated device strikes the units from below, and they are automatically deflected into a chute.

Take a tip from hundreds of similar case records; check Multipress for better, faster, lower-cost production!

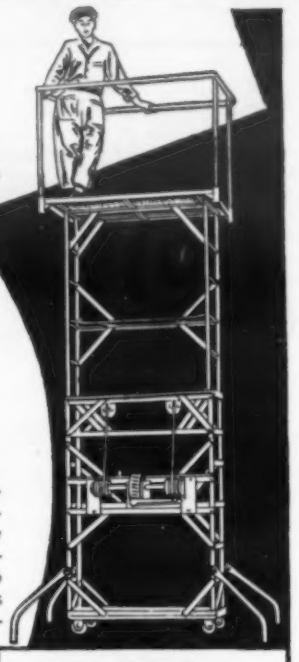
Model K Multipress delivers up to 25 tons of smooth power under quick, accurate control. Ram stroke is adjustable to 15 inches . . . approach speed to 530 ipm. Automatic controls keep the operator's hands safely away from the moving ram. Available with or without Indexing Table.

DENISON HydrOILics

The DENISON Engineering Co.
1151 Dublin Rd., Columbus 16, O.

For more details circle NED-8554 on enclosed inquiry slip

No Erection Required . . . Use at Any Height
HI-LIFT
MARQUEE SERVICER



for
Overhead Maintenance, Painting, Lighting, Cleaning, etc.

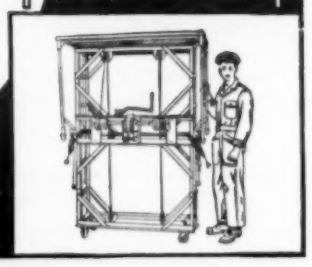
- Safe, Sturdy, Dependable
- No Loose Parts
- Easily Rolled . . . Easily Raised

When safety counts, count on Hi-Lift. Sturdy, all welded steel construction means absolute safety . . . outrigger brace prevents tilting or rolling. Small enough to pass through doorway, yet raises to 11 ft. 6 in. Endorsed by leading concerns.

Also Makers of HI-LIFT Extension Scaffold and ATLAS One-Man Truck Loader.

Write for Complete Information

ATLAS INDUSTRIAL CORP.
853 39th Street
Brooklyn 32, N. Y.



For more details circle NED-8555 on enclosed inquiry slip

PANGBORN Hydro-Finish

gives you . . .

- **Better Paint Jobs**
- **Better Electroplating**
- **Better Finishing**
- **Better Products**

Slash finishing costs to rock-bottom in your plant! Amazing Pangborn Hydro-Finish cleans far faster than hand methods, yet holds tolerances to .0001"! Hydro-Finish cannot harm your product's sharp edges or corners, forms a perfect "tooth" for non-peel electroplating, finishing or painting.

Hydro-Finish makes threaded pieces turn easily . . . forms millions of little "oil pockets" in lubricated pieces to prolong product life. Fatigue failure is reduced because Hydro-Finish removes or blends grinding lines, etc!

Hydro-Finish is also valuable in your tool room—cleans production tools and dies in a fraction of the time needed for expensive hand cleaning.

WRITE TODAY for Bulletin 1400-A. Contains full facts on Pangborn Hydro-Finish and Pangbornite Abrasive. For your free copy, address: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Maryland.

Pangborn

BLAST CLEANS CHEAPER with the right equipment for every job

For more details circle NED-8556 on enclosed inquiry slip

New Literature—Continued

Sand Conditioning

Beardsley & Piper Div., Pettibone Mulliken Corp.—36-page illustrated bulletin 1220 gives complete information on foundry sand mulling and the progress of mulling. Six models of stationary and portable mulling machines are described.

For more details circle NED-8557 on enclosed inquiry slip

Industrial Locomotives

Plymouth Locomotive Works—44-page illustrated catalog on complete line of gasoline, diesel and diesel-electric locomotives describes models from 2½ to 75 tons in both standard and narrow gages.

For more details circle NED-8558 on enclosed inquiry slip

Circuit Breakers

Heinemann Electric Co.—Fully magnetic nonthermal nonenclosed general-purpose circuit breakers for interrupting up to 5000-amp 250-v currents are described in 12-page illustrated bulletin 3410. Time overload and coil resistance curves aid in selection of breakers for specific needs.

For more details circle NED-8559 on enclosed inquiry slip

Sizing Screens

Patterson Foundry & Machine Co.—24-page illustrated brochure features Gyrocentric screens for wet and dry separation operations and for de-watering and liquid recovery processes. Included are data on 22 standard types of screen, installation photographs and specifications.

For more details circle NED-8560 on enclosed inquiry slip

Geared Speed Reducers

Cone-Drive Gears Div., Michigan Tool Co.—8-page illustrated bulletin 8901-50 covers sizes, ratios and types of standard double-enveloping gear speed reducers available from stock in 190,000 combinations.

For more details circle NED-8561 on enclosed inquiry slip

Hoist Products

Harrington Co.—8-page illustrated condensed catalog "Hoist Products" and enclosed price sheets cover line of hand chain, electric, screw, trolley and differential hoists; lever puller; trolleys; chain winches; extended hand wheels and variety of cranes.

For more details circle NED-8562 on enclosed inquiry slip

Chemical Construction Materials

Atlas Mineral Products Co.—Line of chemical construction materials including corrosionproof linings, cements, sheathings, protective coatings and floors; and acidproof brick and tile is described in 8-page illustrated bulletin MCC-1. Suggested are applications and construction procedures.

For more details circle NED-8563 on enclosed inquiry slip

Air Control Valves

Airmatic Valve, Inc.—Air control valves for air, water or oil service in nominal pipe sizes up to 3 in. and for pressures up to 3000 psi are described in illustrated catalog. Valves are designed for foot, hand, mechanical or electrical control of single and double-acting air cylinders. Details of air cylinders and pipe line strainers are included.

For more details circle NED-8564 on enclosed inquiry slip

FOR THE FIRST TIME

56 pages

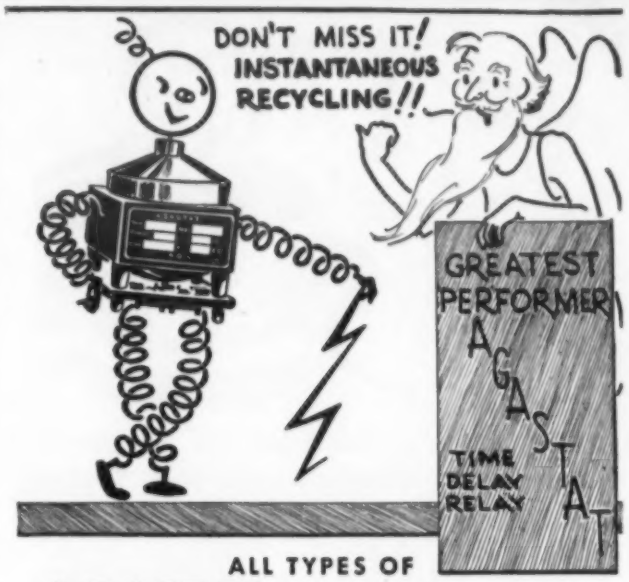
Available Now!

To PRODUCT DESIGNERS who can profit by using OIL HYDRAULIC CYLINDERS in their equipment.

Ask for catalog H-3

The COMMERCIAL SHEARING & STAMPING COMPANY
YOUNGSTOWN 1, OHIO.

For more details circle NED-8565 on enclosed inquiry slip



ALL TYPES OF
AGASTAT TIME DELAY RELAYS
recycle instantly! In the type 1 the delay starts when the control circuit is closed; in the type 2 it starts when the control circuit is open.

Information and literature on request.

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

For more details circle NED-8566 on enclosed inquiry slip

Courtesy of Bud Radio, Inc.

Save—with Circo Vapor Degreasing

Circo vapor degreasing quickly and easily removes oil, grease and dirt from recesses and holes in even the most intricate parts. Circo degreasers handle all types of work—tiny screws or large iron castings—prior to finishing, inspection and assembly. High precision standards are safely met by Circo degreasers.

With a Circo degreaser, not only do you get better cleaning faster, but you are assured of operating economy. Its automatic control system holds solvent consumption to a minimum. Costly hand-labor operations are eliminated—savings of over 90% in time alone are common.

Send for our catalog of standard Circo degreasers. Our engineers will gladly work with you on unusual problems requiring equipment of special design. A-3902

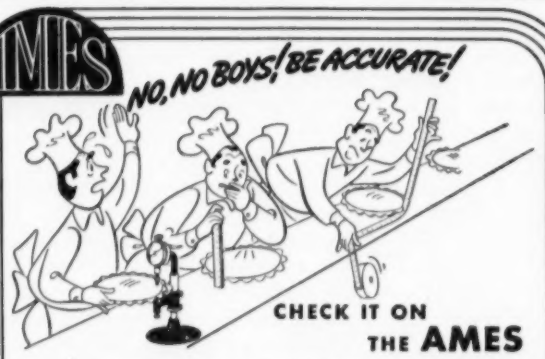
Cut costs 3 ways:
1. Minimum solvent consumption.
2. Reduced man hours.
3. Better cleaning faster.

CIRCO
CIRCO PRODUCTS COMPANY
Metal Cleaning Equipment
6531 EUCLID AVE. • CLEVELAND, OHIO

PIONEERS IN THE DEVELOPMENT OF HOT VAPOR CLEANING EQUIPMENT

For more details circle NED-8567 on enclosed inquiry slip

AMES



CHECK IT ON THE AMES

A cost conscious restaurateur actually employs an Ames Thickness Measure to hold pie crust thickness to a uniform standard, thereby cutting down raw material waste, lowering fuel costs and assuring top quality pastry day in and day out. This unusual solution to a measuring problem is illustrative of the creative thinking of Ames engineering and design department. They'll tackle any measuring problem you may have and come up with a sound answer that will improve your quality control. Ames has built gauges to measure the thickness of potato chips, soap flakes, enamel on teeth, as well as gauges that check the sway of buildings, the stretch of bolts plus many others that solve successfully unusual and difficult applications. If you are puzzled and want an economical answer to a measuring problem, send it to B. C. Ames today.

Ames No. 1 Dial Comparator — measures objects up to 2" in cross section. Adjustable table with positive locking screw. Height 9½", weight 4 lbs., Dial Indicator graduated .001", with .250" range.

Representatives in principal cities. B. C. AMES CO. *84 Ames Street Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

For more details circle NED-8568 on enclosed inquiry slip

Rotor's 15 New "Multi-power" Chippers are easier to handle . . . do jobs faster

The unique hollow piston and "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers provide the 1-2 punch to cut your chipping costs.

Lighter Weight. These new Rotor Chippers average 1½ to 2 lbs. lighter than other chippers making them easier to handle.

Shorter. Exclusive "doughnut" valve makes possible saving of 1" to 2" in length, making it easier to get into those tough, crowded corners.

Faster Cutting. You get more blows per minute . . . because of new exclusive design.

3 Models in 1. By a simple change of parts you can adapt each of the 5 basic models to serve as 3 hammers to match your job: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-sock" model.

This is the biggest advancement in chipping hammers in the past 15 years! Find out all about it! Write for catalogue No. 37.

AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

▲ For more details circle NED-8569 on enclosed inquiry slip ▲

Is storage space your problem?

REDUCE YOUR AISLES

TURNING RADIUS OF OTHER MAKES — SMALLER TURNING RADIUS OF THE MOTO-TRUC

handle materials with

MOTO-TRUC

MOTORIZED, BATTERY OPERATED HI-LIFT TRUCKS.

Hundreds of companies have turned to palletizing with Moto-Trucs because they operate in narrower aisles, leave more space for storage, are easier to control, and the power and maintenance cost is amazingly low.

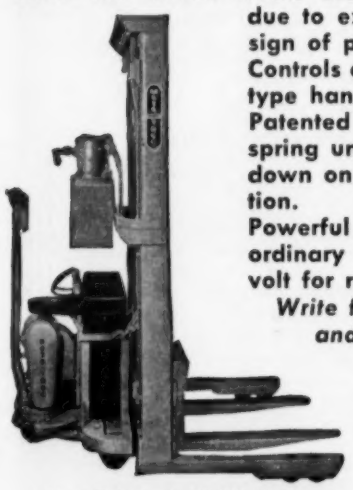
Moto-Truc Hi-Lift Trucks are 18" to 20" shorter due to exclusive compact design of power unit.

Controls are in easy grip roller type handle.

Patented articulating hinged spring unit holds drive wheel down on floor for better traction.

Powerful motors. 12-volt for ordinary operation and 18-volt for ramp operation.

Write for Bulletin No. 50, and Specifications.



Moto-Telescopic Hi-Lift Truck

Standard Model is only 33" and the Shortie Model only 27" from front of truck to back of battery. Capacities range from 3,000 pounds to 4,000 pounds.

The MOTO-TRUC Co.
1953 E. 59th Street
CLEVELAND 3, OHIO.

Originators and world's largest exclusive manufacturers of motorized, battery operated walkie type trucks

▲ For more details circle NED-8570 on enclosed inquiry slip ▲

New Literature—Continued

Retaining Rings

Waldes Kohinoor, Inc.—8-page illustrated catalog 4K-W describes line of Truarc retaining rings grouped according to basic use. Data are given for each ring together with 42 drawings of typical cost-saving applications.

▲ For more details circle NED-8571 on enclosed inquiry slip ▲

Metal Turnings Crushers

Jeffrey Mfg. Co.—12-page illustrated bulletin 828 tells how bulk of metal turnings can be reduced 50 to 80 per cent by use of top or side-fed crushers. Units with capacities from 1 to 15 tons per hour can be supplied.

▲ For more details circle NED-8572 on enclosed inquiry slip ▲

Vibrating Feeder & Conveyor

Hewitt-Robins Inc., Robins Conveyors Div.—8-page illustrated bulletin No. 134 tabulates features and advantages obtainable with Vibra-Feeder which uses mechanical means of operation. Designed with minimum of parts, machine uses only 2-amp current with its ½-hp motor. Bulletin 135 describes Vibra-Veyor in lengths up to 200 feet which is actuated by same vibrating mechanism.

▲ For more details circle NED-8573 on enclosed inquiry slip ▲

Steel-Welding Electrodes

Arcos Corp.—8-page form 5-50-16 relates advantages of low alloy, low hydrogen electrodes for welding high tensile steels, mild steels under restrained conditions and sulphur-bearing free-machining steels. No preheat is required and underbead cracking is eliminated.

▲ For more details circle NED-8574 on enclosed inquiry slip ▲

Riser Compound

Metal & Thermit Corp.—12-page illustrated booklet "Thermit Riser Compound" describes exothermic material which is designed to assure sound castings by promoting proper directional solidification. It also reduces need for special casting design by eliminating many chills and blind risers. Volume of riser metal is held to minimum.

▲ For more details circle NED-8575 on enclosed inquiry slip ▲

Liquid Level Indicators

Yarnall-Waring Co.—20-page illustrated bulletin WG-1823 describes liquid level indicators and auxiliary equipment for remote indication of liquid level in boilers, feed water heaters, storage tanks and related equipment.

▲ For more details circle NED-8576 on enclosed inquiry slip ▲

Centrifugal Pump

Goulds Pumps, Inc.—8-page illustrated bulletin 636.1 contains information on valveless self-priming centrifugal pumps available in sizes from ¼ to 5-hp with both open and closed impellers. Capacities range to 1200 gpm, suction lifts up to 25 ft and heads to 135 ft.

▲ For more details circle NED-8577 on enclosed inquiry slip ▲

Marking Equipment

Jas. H. Matthews & Co.—"An Easy Guide to Proper Marking" is title of 4-page illustrated bulletin which depicts and describes various methods and equipment used in marking products of all types and sizes.

▲ For more details circle NED-8578 on enclosed inquiry slip ▲

Perfect for Hinged parts

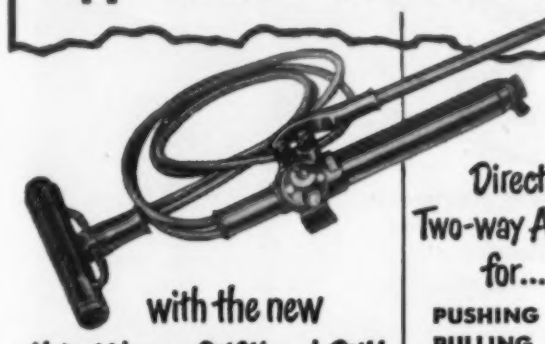
Here's a natural application for Driv-Lok Pins. Many satisfied customers are using them as hinge pins for doors, covers, guards and miscellaneous swinging or pivoted components of their products. Merely drill uniform hole, use pin with half-length grooves which lock in one part and permit free rotation of other part. Each application suggests countless others.

There are types and sizes of DRIV-LOK Pins to fit them all. Write for catalog.

DRIV-LOK PIN COMPANY
717 Chauncey Street, Sycamore, Illinois

▲ For more details circle NED-8579 on enclosed inquiry slip ▲

Applications unlimited...



with the new Hein-Werner PUSH and PULL Hydraulic Jack

Direct Two-way Action for...
PUSHING
PULLING
BENDING
MOVING
LIFTING
LOWERING
STRAIGHTENING

It pushes and pulls with one ram—just turn release valve to right or left. Remote control pump operates at any angle and in any position. Available in 4, 10 and 20 ton capacities with a wide range of attachments. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

Hein-Werner Corporation — Waukesha, Wis.

▲ For more details circle NED-8580 on enclosed inquiry slip ▲

MERCOID
AUTOMATIC CONTROLS
FOR THE HOME AND INDUSTRY

1ST IN ··· QUALITY
ACCURACY
DURABILITY
PERFORMANCE
DEPENDABILITY
SAFETY FEATURES
EASY INSTALLATION
QUICK ADJUSTMENTS
SIMPLIFIED WIRING
UNFAILING SERVICE

Complete catalog sent upon request

If you have a problem involving the automatic control of pressure, temperature, liquid level, mechanical operations, etc., it will pay you to consult Mercoid's engineering staff — always at your service.

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO 41, ILL.

▲ For more details circle NED-8581 on enclosed inquiry slip ▲

VALET RACKS

Keeps Wraps "in press," dry and aired—will not tip over.

This efficient Office Valet (No. S6) Costumer provides 6 spaced coat hangers, 6 ventilated hat spaces and an umbrella stand on a triangular floor base of 29½" x 16". Other units accommodate 6 or 12 or 24 people.

Write for bulletin OV8 showing a complete line of efficient, space-saving steel wardrobe equipment for factories and offices. Everything from small knockdown racks to complete "locker rooms" or checkrooms.

VOGEL - PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

▲ For more details circle NED-8582 on enclosed inquiry slip ▲

PREVENT BUNG DRIP with BOWSER ESTABLISHED 1885 ROTARY HAND PUMPS

- STOP WASTE
- Avoid Slippery Floors
- Keep Storeroom Neat
- SAVE TIME!

NEW Perma-Free ACTION

. . . with smooth, nonpulsating, even flow—no splashing! The working parts of Bowser hand pumps are made of noncorrosive materials to prevent rust "freeze" between moving parts. Cadmium-plated housing permits handling most industrial liquids.

Available in 7 models with or without totalizing meter. Write for folder.

Ideal for drums — tanks — vats — underground storage.

BOWSER, INC., 1381 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

For more details circle NED-8583 on enclosed inquiry slip

15 MECHANICAL FUNCTIONS OF FELT

- SEALING
- WICKING
- WIPING
- POLISHING
- VIBRATION CONTROL
- FILTRATION
- SOUND ABSORPTION
- THERMAL INSULATION
- SHOCK ABSORPTION
- CUSHIONING
- MOISTENING
- PADDING
- PACKAGING
- SURFACING
- FRICTIONAL

These are but a few of the important mechanical functions fulfilled by Felt. Advanced fibre technology and research in American Felt Company Laboratories has led to many new applications where special properties and accurate specification control were needed. An experienced engineering and development staff is ready to assist you by furnishing full technical data or by selecting or designing felt parts for your own special use. Write for "The Story of Felt."

American Felt Company TRADE MARK

62 GLENVILLE ROAD, GLENVILLE, CONN.

For more details circle NED-8584 on enclosed inquiry slip

TO INSURE PROMPT DELIVERIES . . .

"STANDARD" RECOMMENDS STANDARDS

You can depend on prompt deliveries of UNBRAKO Products when you use *standard sizes.*

For, despite shortages, stepped-up demand and other problems of the emergency, we've been able to keep full stocks of UNBRAKO "*standards*" on our dealers' shelves—ready for immediate delivery.

And that's not all . . . Every time you use a *standard size* UNBRAKO it represents a substantial saving over the cost of a "special."

Be sure you have our latest catalog of UNBRAKO *standard* products. Send for your copy of Bulletin 643-R *today.*

SOCKET UNBRAKO SCREWS

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-8585 on enclosed inquiry slip

New Literature—Continued

Welding Equipment

Burdett Oxygen Co.—64-page illustrated catalog lists and describes welding and cutting equipment as well as various types of safety equipment such as gloves, goggles and helmets.

For more details circle NED-8586 on enclosed inquiry slip

Drill Heads

U. S. Drill Head Co.—28-page illustrated catalog is guide to drill heads containing various numbers of spindles for reaming, facing, tapping, threading, etc. All heads are adjustable and are designed to permit drilling on very close centers.

For more details circle NED-8587 on enclosed inquiry slip

Vibration Mounts

Barry Corp.—12-page illustrated catalog No. 504 gives complete engineering data on shock and vibration mounts for protection of industrial, marine and mobile equipment. Application principles for shock and vibration isolation are discussed. Deflection and isolation-efficiency curves are presented to aid solving problems.

For more details circle NED-8588 on enclosed inquiry slip

Bottle Stamping Machine

Wright's Automatic Machinery Co.—4-page illustrated bulletin "Automatic Strip Stamping Machine" lists features and describes operation of this equipment which places revenue and other stamps on bottles at speed of 40 to 120 per minute.

For more details circle NED-8589 on enclosed inquiry slip

Record Control

Remington Rand Inc.—80-page illustrated catalog "Kardex Visible Record Control" describes various combinations of record forms which can be incorporated in Kardex pockets and infinite variety of colored signal control methods that can be used on visible margin of records.

For more details circle NED-8590 on enclosed inquiry slip

Rubber Putty

B. F. Goodrich Co.—2-page illustrated catalog section 9765 deals with Plastikon rubber putty recommended for many types of glazing and sealing uses. It is particularly suitable where vibration, corrosion or moisture are encountered.

For more details circle NED-8591 on enclosed inquiry slip

Toolmakers' Microscope

Gaertner Scientific Corp.—Details of toolmakers' microscope which measures linear dimensions up to 4 in. and coordinate dimensions up to 4 x 2 in. with direct reading to 0.0001-in. in each direction are given in 8-page illustrated bulletin 147-50.

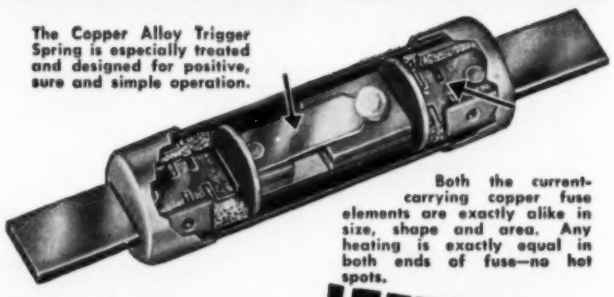
For more details circle NED-8592 on enclosed inquiry slip

Conveyors

Anchor Steel & Conveyor Co.—60-page illustrated book depicts over 50 different types of conveyor applications and deals specifically with conveyors for small parts, scrap and chip handling. Covered also are automatic overload cut-outs for pulley or direct power drives.

For more details circle NED-8593 on enclosed inquiry slip

PROTECT COSTLY EQUIPMENT



With Jefferson Saf-T-Lags you get dependable protection on short-circuits, overloads—against burnouts due to single phasing of polyphase motors or overloading; also protection from a thermal standpoint for panel boards and switching equipment because of detrimental temperatures caused by poor contact, insufficient circulation of air or poor dissipation of heat—also protection against premature blowing on temporary or harmless overloads.

JEFFERSON SAF-T-LAG Thermal FUSES

Write for Fuse Booklet 482-ST Today

JEFFERSON ELECTRIC

JEFFERSON ELECTRIC COMPANY
Bellwood, Illinois

For more details circle NED-8594 on enclosed inquiry slip

FOR VENTILATION, FUME AND DUST CONTROL

Light, Strong, Flexible

FLEXAUST

SPIRAL-REINFORCED HOSE

Flexaust is suitable for a wide variety of suction and pressure uses in ventilation, dust collection and fume control. SIZES 1¼ Inches to 24 Inches. Write for full information on this all-purpose hose. Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced collapsible

PORTOVENT
Ring-reinforced retractable

AMERICAN VENTILATING HOSE COMPANY

Dept. N-11, 15 Park Row, New York 7, N. Y.
Branch Offices:
New Orleans, La., San Francisco, Calif., Washington, D. C.
Plants: Amesbury, Mass.

For more details circle NED-8595 on enclosed inquiry slip

STAYNEW PIPE LINE FILTERS

ELIMINATE MOISTURE OIL DIRT PIPE SCALE

Tests prove that Staynew Filters often save their entire cost in a few weeks. By preventing the passage of foreign matter, they prevent excess wear, costly freeze-ups, damage to materials and interference with processes.

Exclusive Double-Action Principle Provides:

MECHANICAL SEPARATION—Deflector Cup drives foreign matter to bottom of container.

FILTRATION—Air or gas rises thru the original Radial Fin Insert which removes the lighter material.

DOLLINGER STAYNEW FILTERS

DETAILS ON REQUEST

DOLLINGER CORPORATION

49 CENTRE PK., ROCHESTER 3, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

For more details circle NED-8596 on enclosed inquiry slip

REZNOR Automatic Gas Unit Heater

as advertised in the POST

SUSPENDED OR FLOOR TYPE

Extra NO MATERIALS TO BUY . . . EASIER INSTALLED

Warm your store, factory or office with one complete package—no boiler, no steam lines, no duct work—just install a Reznor gas unit heater, the world's biggest seller. Save material, save time, save expense.

REZNOR MANUFACTURING CO.
14 UNION ST. · MERCER, PENNA.

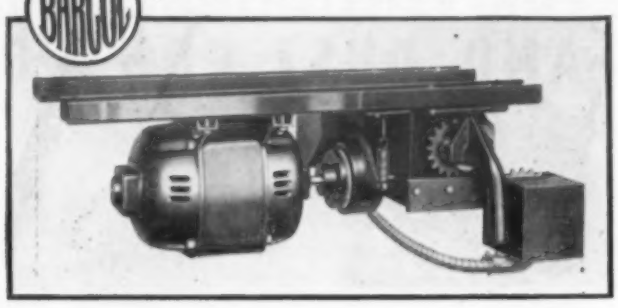
Send me 20-page catalog in full color

☐ for office ☐ for business ☐ for home

Name_____
Firm_____
Address_____
City_____ Zone____ State____

For more details circle NED-8597 on enclosed inquiry slip

BARCOL ◀ LOOK FOR THIS MARK OF QUALITY



Just Push a Button . . . to Open the Door

Use the BARBER-COLMAN Electric Door Operator. Save time, save trouble, save money . . . improve efficiency, reduce heating costs, eliminate drafts, make door-opening easy. Models are available for swinging, sliding, overhead, or steel rolling doors, and for sliding gates. All have built-in safety features. Any model can be operated by push-button switch, by electric eye, or by the amazing Barcol Radio Control. See your Barcol representative for details, or write us for descriptive bulletins.

SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY
108 MILL STREET • ROCKFORD, ILLINOIS

The Only Manufacturer of All Three...

GARAGE DOORS | ELECTRIC OPERATORS | RADIO CONTROL

▲ For more details circle NED-8599 on enclosed inquiry slip ▲

DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT . . . *add attraction—safety—service?*

Ask DIALCO
—what lamp to use
—how to use it
—what it will do
—what it will cost

THIS MAY BE THE ONE
Designed for low cost NE-51 Neon
• Built-in Resistor • Patented
• U/L Listed • Rugged
Catalogue Number 521308 — 997 for 110 or 220 volts.

SAMPLES for design purpose NO CHARGE

NEW! Write for the "HANDBOOK OF PILOT LIGHTS."
Write us on your design problems.

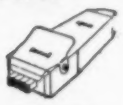
Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y.

▲ For more details circle NED-8600 on enclosed inquiry slip ▲

ACROMARK MEANS "ACCURATE MARKING"

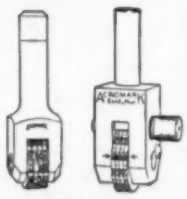
MARK— with NAME-PLATE & PARTS STAMPING MACHINES

STEEL LETTER & FIGURE STAMPS



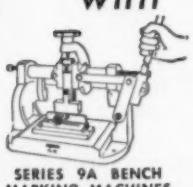
HERCULES HOLDERS & TYPE

NUMBER— with



NON-AUTOMATIC NUMBERING MACHINES

AUTOMATIC NUMBERING HEADS



SERIES 9A BENCH MARKING MACHINES

STAMP— with

POWER DRIVEN MARKING MACHINES

WRITE FOR LATEST LITERATURE AND PRICE LISTS

STEEL HAND STAMPS

The ACROMARK *Company*
7-11 MORRELL ST., ELIZABETH 4, N. J.

▲ For more details circle NED-8601 on enclosed inquiry slip ▲

New Literature—Continued

Variable Speed Drives

Link-Belt Co.—88-page engineering data book No. 2274 lists and describes eight sizes and 16 types of P.I.V. variable speed drives in horsepower ratings of ½ to 25 hp. Preselected Drive 36-page section aids in selecting proper drive for specific service. Diagrams show automatic speed control applications, and typical installations are pictured.

▲ For more details circle NED-8602 on enclosed inquiry slip ▲

Industrial Make-Up Air Units

New York Blower Co.—12-page illustrated bulletin 502 describes complete line of make-up air units which introduce properly warmed outside air into industrial plants to replace exhausted air and to balance minus pressures. Units consist of housing, heating element, fan and motor with adjustable speed drive. Automatic controls and filtering elements can be added.

▲ For more details circle NED-8603 on enclosed inquiry slip ▲

Hydraulic Couplings

Twin Disc Clutch Co.—Application recommendations are given in illustrated bulletin 144-B for all sizes of Twin Disc hydraulic couplings from 7.4 to 27 in. for engines and motors in ¾ to 700-hp range. Schematic drawings show how each model is mounted between prime mover and driven equipment.

▲ For more details circle NED-8604 on enclosed inquiry slip ▲

Fastening Devices

Atlas Screw & Specialty Co.—92-page illustrated catalog 50 lists complete line of fastenings including all types of bolts, screws, nuts and washers as well as U and J bolts, threaded rods, metal stampings and screw machine products, last two being made to customer's specification. Fastenings are available in steel, stainless, nickel, Monel, brass, bronze, copper and other metals.

▲ For more details circle NED-8605 on enclosed inquiry slip ▲

Rolling Mill Machinery

Birdsboro Steel Foundry & Machine Co.—30-page illustrated rolling mill machinery catalog covers equipment for blooming, slabbing and billet mills; merchant, rod, sheet and strip, plate, tube and pipe, and rail mills; and special custom-built equipment. Diagrammatic layouts show design and construction of complete mills.

▲ For more details circle NED-8606 on enclosed inquiry slip ▲

Variable Transformers

Superior Electric Co.—Details of manually operated and motor driven Powerstat variable transformers and Powerstat line correctors are presented in 16-page illustrated bulletin P550. Data are given also on Voltbox alternating current power supplies and explosionproof Powerstats for hazardous locations.

▲ For more details circle NED-8607 on enclosed inquiry slip ▲

Traveling Cranes

Northern Engineering Works—Booklet G-700 contains 8 pages of installation illustrations showing Northern overhead electric traveling cranes in steel mills, power plants, metal fabricating plants, tool and die shops, foundries, scrap yards, railroad yards, paper mills, electrical shops and machine tool plants.

▲ For more details circle NED-8608 on enclosed inquiry slip ▲

HERE IT IS!

Fig. 3639-3678 Self-Priming Centrifugal Patents pending

Goulds NEW Self-Priming Pump

Only GOULDS gives you all five of these outstanding advantages

1. Absolutely no valves of any kind in pump—nor are any needed in installation.
2. No recirculation of liquid after completion of priming action.
3. Efficiencies comparable to quality straight centrifugal pumps are thus obtained.
4. Positive fast-acting self-priming similar to priming ability of positive displacement pumps.
5. No large or bulky priming chambers or reservoirs, providing a compact unit at low cost.

APPLICATIONS Any service where suction lifts are encountered.

SIZES—CAPACITIES AND OTHER FEATURES
39 Models and Sizes • ¼ to 5 H.P. ratings • Open and enclosed impellers • Capacities to 120 G.P.M. • Heads to 135 ft. depending on capacities • Suction lifts to 25 ft.

For full details write for Bulletin 636.1

Goulds PUMPS INC.
Seneca Falls New York

▲ For more details circle NED-8609 on enclosed inquiry slip ▲

SAFE-LINE
WIRE ROPE CLAMPS

Write for details of this—the only PERFECTED wire rope clamp on the market. Millions used by Manufacturers, the Armed Forces and Industries.

NATIONAL SAFE-LINE CLAMP CO.
11252 Nine Mile Road Van Dyke, Michigan

▲ For more details circle NED-8610 on enclosed inquiry slip ▲

ELIMINATE ACCIDENTS DUE TO ROLLING LADDERS

ROLLING CASTER CARRIES LADDER WHEN NOT IN USE — AUTOMATIC ACTION — *RUBBER-TIPPED LEG "LOCKS" TO FLOOR WHEN IN USE*

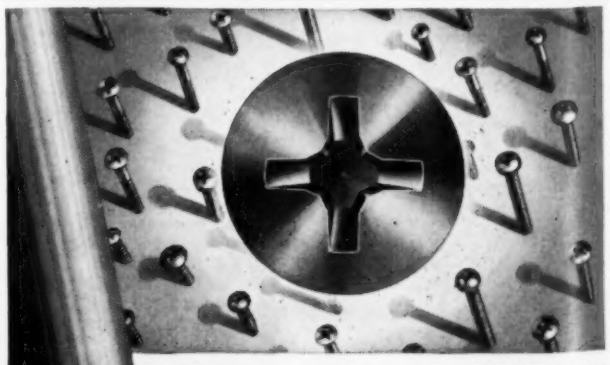
No longer need stock clerks fear accidents from rolling step ladders. The Ballymore All-Steel Safety Ladder speeds the work without danger of falling.

Available in one, two, three step models without handrails and three, four and six step models with handrails.

WRITE TODAY FOR FREE ILLUSTRATED CATALOG

THE BALLYMORE COMPANY Wayne 3, Pa.

▲ For more details circle NED-8611 on enclosed inquiry slip ▲



Now...more than ever...AMERICAN is PHILLIPS HEADquarters

5 acres of new machines and equipment, in the modern plant at Willimantic . . . plus the Norristown plant and Chicago warehouse . . . are keeping distributors and jobbers supplied to fill your orders *right now.* And that goes for all slotted fasteners, too.

Make a note of the *new phone number* of the new main plant . . . *Willimantic, Connecticut 3-1681* . . . also Chicago — Whitehall 4-5866, and Norristown 0158. Call the number nearest you.

AMERICAN SCREW COMPANY
Plants at Willimantic, Conn. and Norristown, Pa.

Phillips

AMERICAN SCREWS

Slotted

▲ For more details circle NED-8612 on enclosed inquiry slip ▲

Add "SELL" to YOUR Product

with a LOW COST Pioneer Foot Switch

Model 102-X ONLY **$1.95** each

- A feature that saves time, motion, money!
- Rated 0.75A, 125V AC, with #16-1/32 POSJ Cord.
- Can be altered to suit your specifications
- Supplied normally open or normally closed. (State which)
- 4" long, 2" wide, 3" high at top

Quantity Discounts

Order test sample today. Ask for catalog sheet showing complete line. We have the switch you want or will make it for you.

PIONEER PATENTS & PRODUCTS CO.

Dept. E, 25 N. Franklin St., Chicago 6, Ill.

For more details circle NED-8613 on enclosed inquiry slip

YOU GET *Accuracy*

WHEN YOU SPECIFY EX-CELL-O DRILL JIG **BUSHINGS**

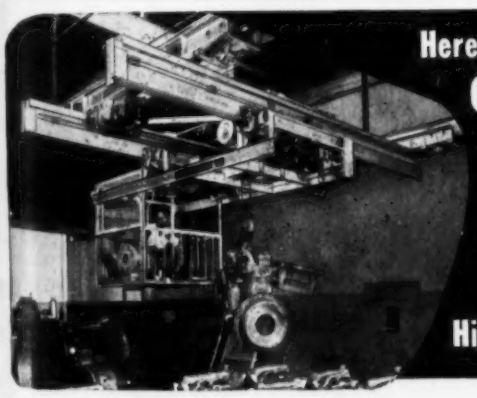
XLO

46—4

For years Ex-Cell-O has been known by American industry as headquarters for precision-made bushings . . . Ex-Cell-O carries one of the largest and most varied stock of drill jig bushings available in the world.

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

For more details circle NED-8614 on enclosed inquiry slip



Here's the **CRANE** for Constant Service at High-Speed

If your handling operations must be "on the go all the time and fast, too", then investigate this American MonoRail Crane. Coupled with constant service at high speed, it offers the advantages of easy movement, rugged construction, low-cost operation and quick installation.

An American MonoRail engineer will gladly give you all the details, or write us about the American MonoRail Constant-Service High-Speed Crane.

THE AMERICAN MONORAIL COMPANY

13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-8615 on enclosed inquiry slip

New Literature—Continued

Drawing & Document Reproduction

Eastman Kodak Co., Industrial Photographic Div.—16-page illustrated booklet "Modern Drawing and Document Reproduction" describes photographic materials and methods for improving legibility of reproduced material. Procedures are suggested for restoring old drawings and for eliminating hand tracing. Additional information is given on reproduction of business forms, correspondence and card records.

For more details circle NED-8616 on enclosed inquiry slip

Stainless Valves & Fittings

Cooper Alloy Foundry Co.—48-page illustrated catalog 52 on stainless steel, Monel and nickel valves, fittings and accessories contains data on dimensions, weights, size ranges, materials, corrosion resistance and design features.

For more details circle NED-8617 on enclosed inquiry slip

Tube Fabrication

Babcock & Wilcox Tube Co.—Illustrated, pocket-size technical bulletin 9B explains methods of working seamless tubes and pipe of ferritic air-hardening alloys containing ½ to 9 per cent chromium.

For more details circle NED-8618 on enclosed inquiry slip

Automatic Unloader

Sahlin Engineering Co.—8-page illustrated booklet describes 'Iron Hand' self-contained automatic unloader used for removing sheet metal stampings from mechanical and hydraulic presses.

For more details circle NED-8619 on enclosed inquiry slip

Steam Jet Siphons

Schutte & Koerting Co.—24-page illustrated bulletin 2-A gives application and operating information on line of SK Steam Jet Syphons which operate on jet principle and utilize energy of steam under pressure to pump, heat and mix liquids and handle solids.

For more details circle NED-8620 on enclosed inquiry slip

Convectors

Airtherm Mfg. Co.—Floor, wall and recessed types of convectors for commercial and industrial heating are described in 16-page illustrated catalog 702. Application data given includes dimensions of units as well as tables of steam, forced circulation hot water and hot water capacities for all sizes.

For more details circle NED-8621 on enclosed inquiry slip

Perforated Metals

Diamond Mfg. Co.—Representative patterns and typical architectural grilles, perforated metal parts and ornamental cane are shown in 4-page illustrated catalog and specification bulletin No. 36.

For more details circle NED-8622 on enclosed inquiry slip

Wire Specialties

E. H. Titchener & Co.—"Any Price Is Too High If It Can Be Reduced" is title of 6-page illustrated folder which cites case studies of wire shelves, wire and strip metal assemblies, welded wire assemblies and wire forms which have been produced to manufacturers' specifications.

For more details circle NED-8623 on enclosed inquiry slip

Gears by FAIRFIELD

TWO sets of spiral bevel gears produced by Fairfield interconnect the dual crankshafts of the opposed piston diesel engines in the locomotive shown above, which is one of an ever-increasing fleet serving America's railroads. Diesel locomotives are just one of the many types of equipment that have benefited from Fairfield's pioneering work in producing high precision, automotive type gears to meet virtually any required specification of industry. If gears are a part of the product you make, get acquainted with Fairfield. Write today.

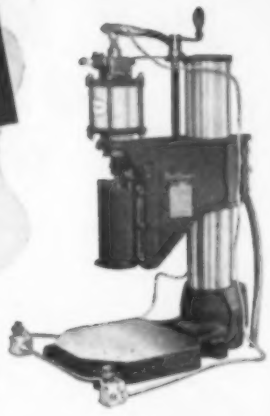
Ask for a copy of bulletin describing Fairfield facilities.

FAIRFIELD MANUFACTURING CO.

317 SO. EARL AVENUE LAFAYETTE, INDIANA

For more details circle NED-8624 on enclosed inquiry slip

5500 lbs. IMPACT WITH THIS Bellows Air-Powered PRESS



THIS spring-loaded impact press operates on any air line pressure from 20 lbs. to 175 lbs. . . . develops a controlled impact force ranging from a few pounds up to approximately 5500 pounds at 100 lbs. air pressure.

Ram shaft has a maximum clearance of 13-7/16" (maximum ram movement 1¼" with a vertical adjustment of 12"). Throat clearance 7".

The Bellows "Controlled-Air-Power" Impact Press is available with either electrical or manual foot controls, or with two hand safety controls.

Write for Bulletin P-400

Address Dep't NED 1150

The Bellows Co.

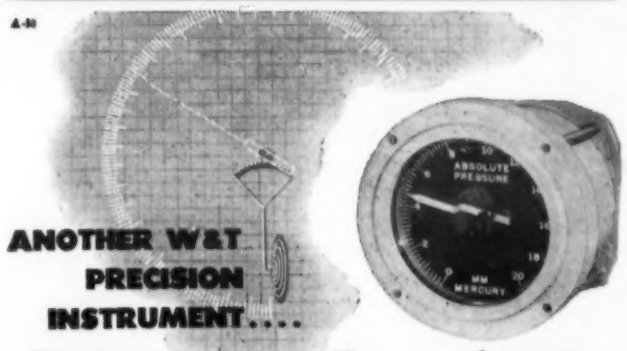
AKRON 9, OHIO

92%

"Controlled-Air-Power" For Faster, Safer, Better Production

For more details circle NED-8625 on enclosed inquiry slip

4-40



ANOTHER W&T PRECISION INSTRUMENT....

The W & T Absolute Pressure Indicator

The W&T Absolute Pressure Indicator is specially designed for measuring a wide range of pressure down to absolute zero, swiftly and precisely. No elaborate auxiliary indicators are required to use this instrument . . . just connect the vacuum line directly to the gauge, read vacuum directly from the dial in terms of absolute pressure. The instrument offers a sensitivity of 1 part in 500 for all ranges which are listed below.

Here are some other major advantages of this instrument:
Readings are independent of the gas being measured.
Scales are custom calibrated and require no calibration curve.
No mercury is used, eliminating the hazard of mercury vapor in the vacuum system.

Standard ranges (2¾" or 6" dials):
0 — 20 mm. mercury absolute pressure
0 — 50 mm. " " "
0 — 100 mm. " " "
0 — 200 mm. " " "
0 — 410 mm. " " "
390 — 800 mm. " " "

This W&T Precision Pressure Indicator, already proven through use in vacuum distillation, lamp and tube manufacture, and food processing, is only one of a series of W&T precision pressure instruments. If you desire more information or have a problem in pressure measurement, write today.

WALLACE & TIERNAN PRODUCTS, INC.

ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS

Belleville 9, New Jersey • Represented in Principal Cities

For more details circle NED-8626 on enclosed inquiry slip

SUBAC CEMENT

A cement especially adapted for underwater repairs and construction. Tested through years of use

SUBAC Cement is a specially-manufactured product which, unlike other cements, ***can be used under water as a mortar*** and which will not segregate or separate when exposed to washing action during or after application. SUBAC Mortar is handled and placed either in still or flowing water with the same facility and for the same purposes as ordinary mortars are used above water.

Mortar made from SUBAC Cement is extremely dense and impermeable, thus providing protection against disintegration from alternate freezing and thawing and internal chemical attack.

For bridge foundations, piers, retaining walls, footings, pipe lines, dams, etc., for laying or pointing stonework under water—SUBAC Cement is effective and applicable for permanent repairs.

THE CRANDALL ENGINEERING CO.

261 Franklin Street
BOSTON 10, MASS.

For more details circle NED-8627 on enclosed inquiry slip

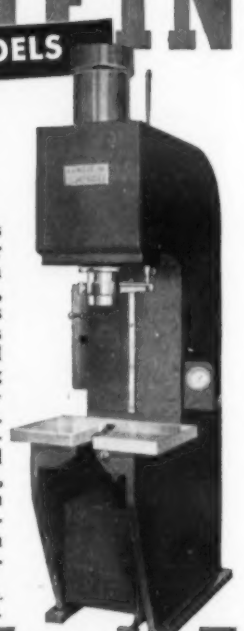
World's Most Widely Used
PORTABLE
DIAL SCALE

This portable Toledo controls costs in a great variety of applications in business and industry. Sturdily built to withstand heavy usage and maintain precise weighing accuracy. Rapid automatic weight indication furnished by Toledo Double Pendulum Mechanism. Wide choice of dials. Capacities to 1600 lbs. Send for bulletin 2025. Toledo Scale Company, Toledo 1, Ohio.

Portable Scale for weighing at bench level heights. Shown with adjustable wheeled stand and with a packing house pan.

TOLEDO
HEADQUARTERS FOR SCALES
For more details circle NED-8628 on enclosed inquiry slip

HANNIFIN
75 STANDARD MODELS
Hydraulic Presses
Engineered To Meet Your Requirements



IT'S EASY to get hydraulic presses engineered to meet your particular requirements when you choose from the Hannifin line. 75 standard models, plus many special designs, in capacities ranging from 5 to as high as 300 tons are available for handling standard and special production jobs: straightening—press fit assembly—forming—molding—broaching and similar operations. Hannifin design readily permits modifications or variations from standard at moderate cost. Table size, gap, reach, control equipment, and ram speed can be altered easily to suit special conditions. Take advantage of Hannifin engineering service — ask for recommendations.

Right—Model F-250 forcing press. Capacity 25 tons.

SEND FOR THIS CATALOG
BULLETIN 130, "Hannifin Standardized Hydraulic Presses," contains detailed information on Series F Forcing Presses, Series S Straightening Presses, and Series C Column Type Presses — Helpful specification and engineering data. ASK FOR YOUR COPY.
HANNIFIN CORPORATION 1127 S. Kilbourn Ave., Chicago 24
For more details circle NED-8629 on enclosed inquiry slip

NEW
ARCOS TENSILEND
Low Hydrogen Electrodes
for better welding
of high tensile steels

The new Tensilend Electrodes have been developed and added to the Arcos low hydrogen family to help you overcome fabricating problems on high tensile steels.

NO PREHEAT NEEDED
When welding low alloy or high carbon steels.
UNDERBEAD CRACKING ELIMINATED
Stainless type coating controls hydrogen.
SUPERIOR PHYSICALS
High ductility and impact strength.
SAVINGS IN ELECTRODE INVENTORY
One electrode welds high strength, low alloy steels, mild steel under highly restrained conditions, or sulphur-bearing free machining steels.

ARCOS CORPORATION • 1500 South 50th St., Philadelphia 43, Pa.

Write for bulletin "The ABC's of Welding High Tensile Steels"

WELD WITH ARCOS

Specialists in Stainless, Low Alloy and Non-Ferrous Electrodes
For more details circle NED-8630 on enclosed inquiry slip

New Literature—Continued

Service Pumps

Layne & Bowler, Inc.—16-page illustrated bulletin SCP-50 is descriptive of vertical turbine pumps for short-coupled river and relift, boosting, recirculation, cooling tower, drainage, gas and oil pumping and other services.

For more details circle NED-8631 on enclosed inquiry slip

Automatic Transfer Mechanisms

G & W Electric Specialty Co.—12-page illustrated bulletin DA50 explains operation of three different types of transfer mechanisms. All three are designed for connecting one load circuit to two feeder circuits: a preferred and an emergency power source.

For more details circle NED-8632 on enclosed inquiry slip

Filing Simplification

Remington Rand Inc.—40-page illustrated booklet "How to Simplify Your Files and Filing Systems" charts life cycle of file. It outlines essence of scientific filing and details various indexing features of a good filing system. It also brings out various ways and means of finding filed material.

For more details circle NED-8633 on enclosed inquiry slip

Design & Production Facilities

Wright's Automatic Machinery Co.—16-page illustrated booklet "Look to Wright's" describes experience of personnel and facilities which are available to other companies for machine design, pilot model development and production manufacturing.

For more details circle NED-8634 on enclosed inquiry slip

Cellular Rubber Products

Rubatex Div., Great American Industries, Inc.—Properties of Rubatex closed cellular rubber are tabulated in 8-page illustrated catalog BRS-12-49. Typical uses, available types, stock sizes and engineering information are given.

For more details circle NED-8635 on enclosed inquiry slip

Compressed Air Cleaner

R. P. Adams Co.—Protection of air-powered tools, gages and process equipment against air-borne impurities is subject of 8-page illustrated bulletin 176. Described is equipment for removal of water, oil and scale from compressed air systems which includes Adams aftercoolers and cyclone separators and Adams Poro-Stone air filters.

For more details circle NED-8636 on enclosed inquiry slip

Sewer Joint Compound

Atlas Mineral Products Co.—How quality, permanent joints can be made in sewer pipes with G-K bituminous jointing compound is explained in 4-page illustrated bulletin No. M20-1. Properties of this material and directions for use are given.

For more details circle NED-8637 on enclosed inquiry slip

Mechanical Differentials

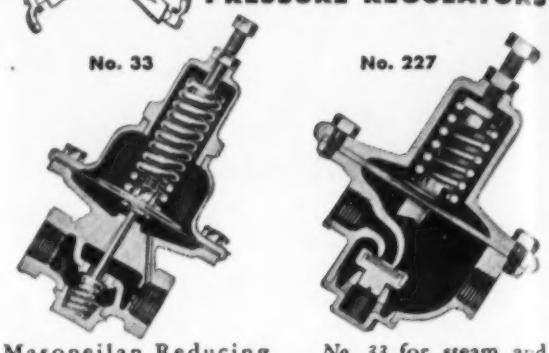
Arma Corp.—4-page illustrated folder "Arma Mechanical Differentials" describes available sizes of this unit which provides accurate and convenient means of combining algebraically two mechanical quantities measured by angular displacement.

For more details circle NED-8638 on enclosed inquiry slip

PORTELVATOR
THE HANDY HAMILTON PORTABLE ELEVATING TABLE
Mechanical muscles for heavy lifts are cheaper 7 ways than manpower
STRONG AS AN ELEPHANT

WRITE FOR BULLETIN P-50
THE Hamilton TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO • U • S • A
For more details circle NED-8639 on enclosed inquiry slip

Stop Losing Money in Pressure Reducing
USE
MASONEILAN
PRESSURE REGULATORS



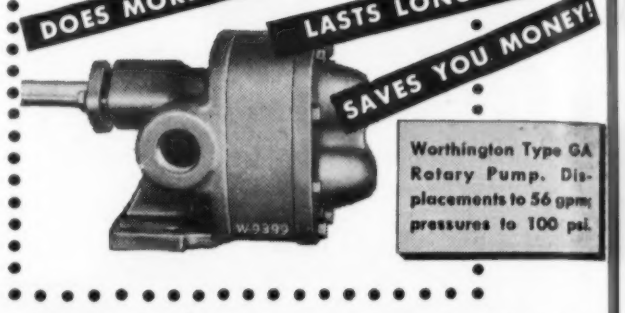
Masoneilan Reducing valves make a hit with production and maintenance men in all types of industries because they furnish economical pressure control. Their dependable operation, low maintenance cost and minimum time-out-of-service saves money through accurate control and reduced waste.

No. 33 for steam and air service — Sizes from 1/8" to 3/4". Reduced pressure ranges 2-20; 20-40; 40-100 psi. Maximum working pressure 200 lbs.

No. 227 for water service—Sizes 1/4" to 2". Reduced pressure ranges 10 to 60 psi. Maximum working pressure 150 psi. Also available for air service from 1/4" to 1".

MASON-NEILAN REGULATOR COMPANY
1189 ADAMS STREET
BOSTON 24, MASS., U.S.A.
For more details circle NED-8640 on enclosed inquiry slip

DOES MORE JOBS! LASTS LONGER! SAVES YOU MONEY!



Here's a small rotary pump that handles hot, cold, thin or viscous liquids—under severest conditions. Amazingly simple and rugged, the GA has many advanced features that assure longer, lower-cost, trouble-free pumping.

Like every other pump in Worthington's complete standard line—which includes all types and sizes—the GA is "job-ready" for top performance in its particular work-range.

Make Worthington—with its longest experience in the field—your "pump headquarters"—for service that proves *there's more worth in Worthington.* Write to *Worthington Pump and Machinery Corporation, Dept. H821, Merchandising Division, Harrison, New Jersey.*

WORTHINGTON
99-21
For more details circle NED-8641 on enclosed inquiry slip

NOW! AT LAST!
The Answer To A Long-Time Industrial Need!
PROTECT FROM CORROSION AND CUSHION FROM SHOCK
Both With One Easy-To-Use Packaging Material
CHIPPAFLEX VPI

Chippaflex Vapor Phase Inhibitor Wrap has the property of completely protecting metal parts from corrosion, as well as affording the physical protection of Chippaflex, the flexible corrugated with the "thousands of little cushions"! Just wrap in Chippaflex VPI for excellent long-term storage protection! • conceived and patented by Shell Development Co., a subsidiary of Shell Petroleum Corp. • processed by Orchard Paper Co. of St. Louis, Missouri • converted and marketed by Chippewa.
Write today for complete information on this amazing new double-purpose wrap!

Chippewa
PAPER PRODUCTS CO., INC.
3315 W. 48th Place, Chicago 32, Illinois
For more details circle NED-8642 on enclosed inquiry slip

For large gear reduction in small space...

Use LINK-BELT Herringbone Gear Drives!

When a Link-Belt Herringbone Gear Drive is on the job, you know that power is transmitted positively, efficiently and economically. This heavy duty, precision built drive takes shock loads in stride . . . furnishes smooth, dependable power . . . requires minimum space. Sizes range from ½ to 1000 horsepower. Single, double and triple types are available to meet your demands.

Book No. 2419 tells you how to select the type of Herringbone Gear Drive you need. Send for your copy today.

LINK-BELT COMPANY
Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities. 12,023

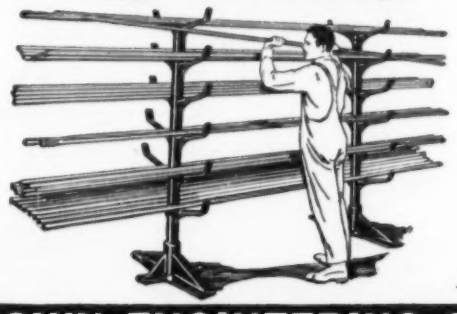
SEND NOW for Book No. 2419

For more details circle NED-8643 on enclosed inquiry slip

SPEEDS UP STOCK-ROOM SERVICE

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist: depreciation is practically nil. SEND FOR BULLETIN No. 26-D DESCRIBING—

BROWN'S *QUICK-SERVE* RACKS



BROWN ENGINEERING CO.
129 N. THIRD ST. READING, PENNA.
RACKS • VISES • CLUTCHES • COUPLINGS

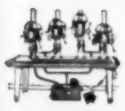
For more details circle NED-8644 on enclosed inquiry slip

GRAY-MILLS

PUMP UNITS

Use these portable self-contained units as . . .

14 Standard Models



Coolant Systems for Machine Tools.

"Stand-bys" in case built-in pumps fail.

Die or Stock Lubricators on Punch Presses.

Special uses: Circulating, Transferring and Applying Liquids.

In a matter of minutes you can connect a Gray-Mills Portable Pump Unit to any machine and assure a continuous, controlled flow of coolant or other liquid. Units are complete with containers, motor driven pumps with filters, hose, control valves and flexible metal nozzles.

GEAR AND CENTRIFUGAL PUMPS
Volumes to 43 GPM—Pressures to 50 PSI—5-12-38 gallon containers.

Send for catalog to

GRAYMILLS CORPORATION
2005 Ridge Ave., Evanston, Ill.

For more details circle NED-8645 on enclosed inquiry slip

New Literature—Continued

Unit Heaters

National Radiator Co.—16-page illustrated catalog No. 575 describes horizontal and vertical delivery unit heaters which have steam capacities up to 500,000 Btu per hr and hot water ratings to 387,800 Btu per hr. Included are installation and maintenance instructions as well as typical wiring and piping diagrams.

For more details circle NED-8646 on enclosed inquiry slip

Electrical Insulation

Laminated Plastics, Inc.—8-page manual "Glastic MM" lists properties and typical uses of this Fiberglas-reinforced laminate for electrical insulation.

For more details circle NED-8647 on enclosed inquiry slip

Air Conditioning Units

Young Radiator Co.—Advantages of improved YAC sectional design, roughing-in dimensions, operating characteristics and capacity data on eight models of air conditioning units of both horizontal and vertical types are presented in 6-page illustrated catalog No. 7550.

For more details circle NED-8648 on enclosed inquiry slip

Floodlights

Steber Mfg. Co.—4-page illustrated bulletin No. 128-50 lists open and enclosed floodlights in wide range of sizes from 100 to 1500 w that are designed for commercial, industrial and sports applications. Colored lenses for dramatic lighting effects can be obtained for several models.

For more details circle NED-8649 on enclosed inquiry slip

High Pressure Pumps

Aldrich Pump Co.—6-page illustrated data sheet 64-B describes 5-in. stroke Multiplex direct flow pumps available as five or seven plunger units with capacities at 100 rpm of up to 5060 barrels per day. Maximum pressures range from 614 psi with 3½-in. diameter plungers to 7500 psi with 1-in. diameter plungers.

For more details circle NED-8650 on enclosed inquiry slip

Steel Derricks

American Hoist & Derrick Co.—36-page illustrated catalog 200-D-3 covers line of steel derricks with capacities up to 250 tons. Six different types of derricks are treated separately in sections which include specifications, outline drawings and operating features.

For more details circle NED-8651 on enclosed inquiry slip

Finishing Diecastings

American Wheelabrator & Equipment Corp.—Illustrated booklet 794 shows how die casters have used Wheelabrating to roughen surface of diecastings to provide bond for finish coatings, to remove fine burrs and thin flash and to eliminate porosity in metal itself.

For more details circle NED-8652 on enclosed inquiry slip

Couplers & Fittings

Foster Mfg. Co.—12-page illustrated circular "Chrome Sleeve Quick Detachable Couplers" presents air, grease and oil fittings, hose, adapters and swivel nut connections. Sizes, types and applications are outlined.

For more details circle NED-8653 on enclosed inquiry slip

Clamp Most Anything WITH "Aero-Seal"

THE UNIVERSAL WORM-DRIVE CLAMP

"No holds barred" with Aero-Seal. Clamp odd-shaped connections, join multiple pipes or ducts together firmly, permanently, with these durable steel clamps that conform easily to any shape. Worm drive prevents distortion at point of clamping; use again and again.

Vibration will not loosen. Integral construction—no parts to lose. Corrosion resistant—stainless steel bands, available for screwdriver or thumbgrip.

ANOTHER BREEZE MARK PRODUCT

WRITE TODAY FOR FREE SAMPLE!

AERO-SEAL Worm Drive Never Works Loose

"Aero-Seal" HOSE CLAMPS

BREEZE CORPORATIONS, INC.
37 South Sixth Street, Newark 7, N. J.

For more details circle NED-8654 on enclosed inquiry slip

BRAKE DIES

- UP TO 14 FEET LONG
- MADE FROM CHISEL STEEL BILLETS—FORGED TO SIZE AND THEN MACHINED.
- EVERY SET OF BRAKE DIES IS DEVELOPED FROM A PRELIMINARY SMALL "TRY-OUT" SECTION—TO GET THE RIGHT SHAPE ON YOUR MATERIAL, THEN

- WE MAKE YOUR SET OF PERFECT BENDING DIES
- BY THE MAKERS OF THE FAMOUS SEMCO NIBBLER PRESS.

WRITE FOR LATEST LITERATURE
ASK FOR ESTIMATES

SEMCO
SERVICE MACHINE COMPANY INCORPORATED
202 MILLER STREET, ELIZABETH, N. J.

For more details circle NED-8655 on enclosed inquiry slip

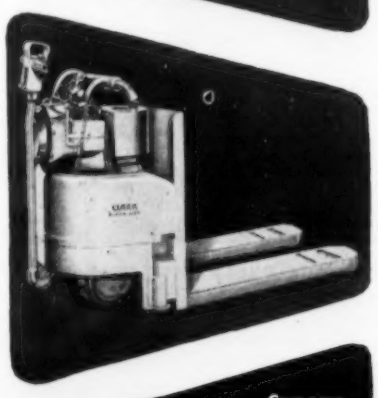
Biggest Materials Handling news in years

CLARK'S REVOLUTIONARY *New* POWERED HAND TRUCKS

• GAS OR ELECTRIC POWER • SHORTEST TURNING RADIUS • MORE POWER! • MOTORS IN THE DRIVE WHEEL

Electro-Lift

New-type compound motor develops more power than any other electric truck. Ample reserve power—high gradability. Automatic acceleration. Soft, dynamic braking. Requires minimum operator effort because speed variations are negligible. 19-plate batteries.



Hydro-Lift

Gas-engine drives variable-displacement hydraulic pump which drives constant-displacement hydraulic motor with unequalled smoothness and controllability. 24-hour ramp service. Automatic torque multiplication—big reserve power. Effortless finger-tip positioning of directional controls.

Compare these great new machines with *all* others—as to *what you get for your money!* To get all the facts, send for our hand-truck booklet—yours for the asking. Use the coupon.

One Basic Design

Same rugged frame for both power types. Shortest wheelbase. Larger (14") drive tire carries greater share of load—lessens weight on rollers—less wear on rubber and floor. Greatest underclearance. Compact drive unit fully enclosed. Largest main carrier bearing of all hand trucks.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 21, MICH.
Please send New Powered Hand Truck Book.
Name
Firm Name
Street
City Zone State

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

For more details circle NED-8656 on enclosed inquiry slip

The
GUARDIAN SERIES 405 D. C. RELAY

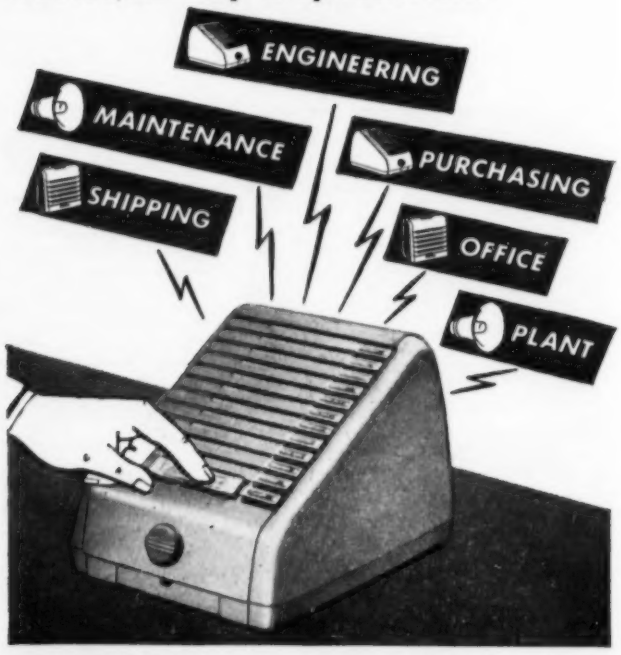
The Guardian Series 405 Telephone Type Relay, used for communications, is an "all-purpose" type especially suited to sensitive applications. Instantly responsive. Operates at high speed. Provides a time delay on attract or release when equipped with a copper slug on the coil. Armature hinges on pin-type bearing to insure (1) long wear, (2) freedom from binding and (3) minimum side play. Standard weight of hermetically sealed Series 405 (DPDT) Relay: 11.5 oz. Also available with special windings.

GUARDIAN ELECTRIC
1626-M W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

For more details circle NED-8657 on enclosed inquiry slip

Step Up Production

with faster communication between Key Departments

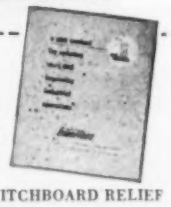


EXECUTONE Intercom puts every department at your fingertips—*instantly!*

Production moves faster when you don't have to wait for information. With Executone you talk to any department, anywhere in your office or plant—*instantly!* No time lost running back and forth. No waiting on "busy" inside phones. You get more work done—*faster!*

In the NEW Executone voices are amazingly crisp and clear. Installed and serviced by Executone-trained technicians. Low cost Executone soon pays for itself in dozens of ways.

Executone
GET THE FACTS **INTERCOM SYSTEMS**



EXECUTONE, INC., Dept. L-7
415 Lexington Ave., New York 17, N. Y.

Without obligation, please send me full data on Executone Intercom. I am particularly interested in:

☐ INTER-OFFICE COMMUNICATION ☐ SWITCHBOARD RELIEF
☐ INTRA-PLANT COMMUNICATION ☐ INVENTORY CONTROL
☐ MATERIALS HANDLING CONTROL ☐ LOCATING PERSONNEL

Name.....Title.....
Firm.....
Address.....City.....

For more details circle NED-8658 on enclosed inquiry slip

NEW EQUIPMENT DIGEST

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

Main Office: Penton Building, Cleveland 13, Ohio

A. N. GREGG.....Editor
D. H. ROWE.....Assoc. Editor
S. W. BAKER.....Asst. Editor
J. W. CLOSE.....Circulation Mgr.
F. O. RICE.....Publisher
WALTER STAAB...Adv. Service Mgr.
M. E. OLSON.....Sales Prom. Mgr.
HAZEL DAVIS Adv. Production Mgr.

ADVERTISING REPRESENTATIVES

Cleveland 13 L. H. WEBER, G. B. GUEST
Penton Building, Main 1-8260
Chicago 11 J. H. ROBISON, W. J. LOWITZ, J. M. WELLS
520 N. Michigan, Whitehall 4-1234
New York 17 B. R. BAKER, G. M. BERNARD
60 E. 42nd St., Murray Hill 2-2581
Philadelphia V. W. VOLK
7 N. Drexel Ave., Havertown, Pa., Hilltop 6-3199
Los Angeles 4 F. J. FULLER
130 N. New Hampshire Ave., Dunkirk 2-1758

New Equipment Digest is published monthly by Equipment Digest Publishing Co., Penton Building, Cleveland 13, Ohio; G. O. Hays, President; F. O. Rice, Vice President & Secretary; J. R. Dawley & J. H. Robison, Vice Presidents; E. L. Shaner, Treasurer

Publisher's Notice: We assume no responsibility for the validity of claims in connection with news items appearing in New Equipment Digest. Addresses are given to facilitate further inquiry.

NOVEMBER, 1950

New Literature—Continued

Electric Clock Movements

Sessions Clock Co.—Electric clock movements for all types of timing applications are described in 12-page illustrated bulletin CM-10. Usable for standard clock and special applications, compact self-starting demountable-motor movements are available for 25, 50 and 60-cycle 110 and 220-v ac.

For more details circle NED-8659 on enclosed inquiry slip

Recording Gages

Bristol Co.—32-page illustrated bulletin G621 presents information on series 500 recording gages which include pressure gages for up to 10,000 psi, vacuum gages, low range pressure and draft gages and absolute pressure gages. Measuring elements, operating principles, charts and accessories are described.

For more details circle NED-8660 on enclosed inquiry slip

Hydraulic Control Valves

Logansport Machine Co.—20-page illustrated catalog No. 200 Section 4 lists various types of balanced-pressure piston-type hydraulic control valves including two-position, three-position four-way, manually-operated, pilot-operated four-way, cam-operated and electric solenoid-operated models.

For more details circle NED-8661 on enclosed inquiry slip

Precision-Cut Felt

American Felt Co.—Four-fold mailing piece presents information about precision cutting and shaping of felt parts to specifications. Typical uses for such parts include separating, protecting, supporting, cushioning, sealing and insulating.

For more details circle NED-8662 on enclosed inquiry slip

GENERATES ACCURATE SIZE, ROUNDNESS, STRAIGHTNESS, AND FINISH ON

Spindles	Pistons and	Test bars
Shafts	piston rods	Die pins
Guide pins	Rollers	and
and bars	Plungers	similar parts

For complete information write or call—

MICROMATIC HONE CORPORATION
8100 Schoolcraft Avenue • Detroit 4, Michigan

For more details circle NED-8663 on enclosed inquiry slip

Have you a problem with SLUDGE in your fuel oil system?

READ THIS

"By the use of Houghto-Solv in our Bunker C Fuel Oil we have eliminated the former need for daily shut-downs to remove carbonized burner cups and clean strainer baskets.

"We have found that sludge in storage tanks, which formerly built up to 6" deep, has been completely dissolved. This alone has meant a big saving in labor; it has made the dirty and disagreeable job of hand cleaning, which was never complete nor satisfactory, now unnecessary.

"Altogether, I have found that HOUGHTO-SOLV will do all that has been claimed for it, with more than satisfactory results."

Many similar letters, all reporting immediate efficiency and economy, tell us that Houghto-Solv really does its job! This fast acting fuel oil additive cleans the entire fuel system. It dissolves sludge, making it burnable with the oil. Expensive and messy cleaning jobs are eliminated . . . one application, for example, saved a user nearly $2,000 on tank cleaning.

Results like those in the above letter can be yours, too . . . just add one quart of Houghto-Solv for every 1,000 gallons of oil in your tank. Your sludge problem will clear up fast.

Here's all the data FREE

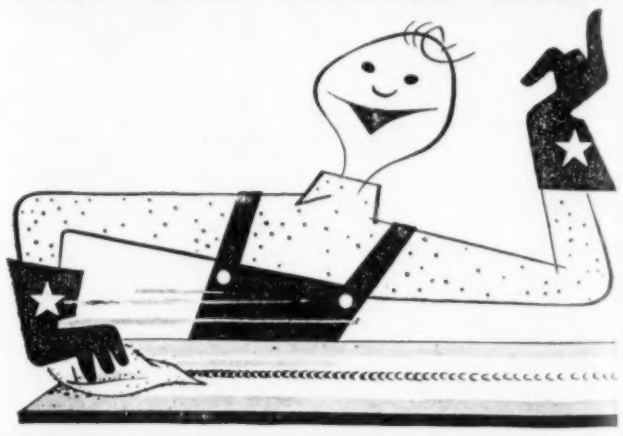
This helpful folder completely describes Houghto-Solv.

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Phila. 33, Pa.

For more details circle NED-8664 on enclosed inquiry slip

For more details circle NED-8665 on enclosed inquiry slip

WIPE WELD SPATTER CLEAN



Don't fight with weld spatter. Wipe it off in a flash and save up to 85% of weld cleaning labor. Simply brush Protect-O-Metal No. 2 on weld area and adjacent surfaces, weld, and unsightly troublesome weld spatter wipes clean with a dry cloth. Get smooth, clean welds ready for painting if desired. P. O. M. No. 2 does not cause smoke, fumes or odors; contains no organic ingredients. One coat serves for single or multi-pass welds, costs a tenth of a cent per foot of weld, saves up to three times its cost in time savings alone. Order a trial gallon ($3.25).

PROTECT-O-METAL
POM

G. W. SMITH & SONS, INC., GWSMITH 5406 KEMP ROAD, DAYTON, O.

For more details circle NED-8666 on enclosed inquiry slip

Simple • Accurate
GROUND RESISTANCE TESTING
with
VIBROGROUND

- Push-Button Operation
- Direct-Reading
- Completely Self-Contained
- True readings, regardless of earth resistance and condition, stray frequencies, voltages or currents

YOU can be sure of safe, effective grounding of all types of electrical systems when you test with the light, easy-to-use Vibroground. Simple operation and built-in accuracy virtually eliminate reading errors. No leveling, cranking or outside power source is necessary; and direct readings are independent of auxiliary probe resistance.

Full data on Vibrogrounds, including testing techniques and illustrations, is yours for the asking.

Write for BULLETIN 105

ASSOCIATED RESEARCH, Incorporated
"Precision Instruments Since 1936"

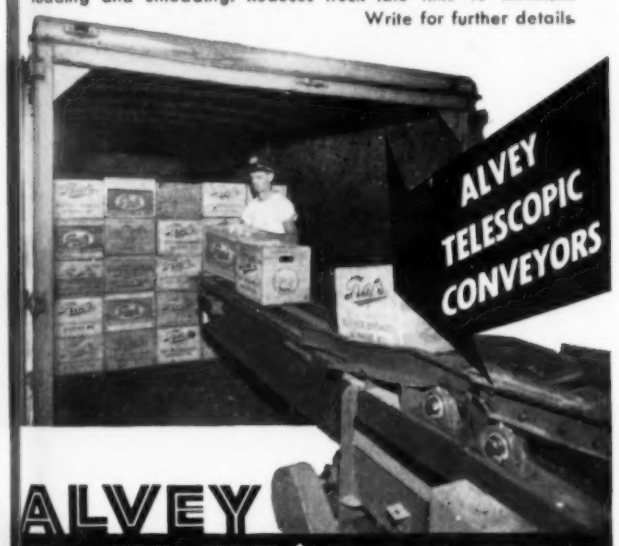
3786 WEST BELMONT AVENUE • CHICAGO 18, ILLINOIS

For more details circle NED-8667 on enclosed inquiry slip

the easy way — to load and unload trucks

An Alvey Telescopic Boom Conveyor extends into the truck for loading and unloading purposes. Easily adjustable. Reversible conveying element. Power propelled. Convenient controls. Speeds loading and unloading. Reduces truck idle time to minimum.

Write for further details.

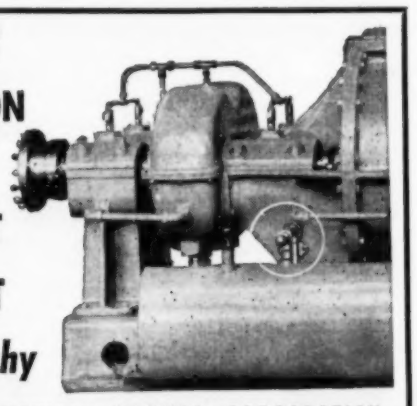


ALVEY Engineered PACKAGE CONVEYING

ALVEY CONVEYOR MFG CO., P O. BOX 3031, ST LOUIS 24, MO.
Branch Sales Offices in Principal Cities

For more details circle NED-8668 on enclosed inquiry slip

for BEST PRODUCTION you need BEST EQUIPMENT that's why



ROOTS-CONNERSVILLE BLOWER CORPORATION
CONNERSVILLE, IND. installs

OIL-RELIEF "FULFLO" BY PASS VALVES
TRADE MARK REG. U. S. PAT. OFF.

This outstanding manufacturer incorporates FULFLO VALVES shown directly above the tank or oil reservoir in their efficient R-C Rotary Positive Gas Pumps.
FULFLO VALVES maintain constant, uniform pressures . . . NO MAINTENANCE . . . and they're CHATTERLESS.
Pipe sizes: 1/4" to 2" standard pipe thread and STD 300 lb. American flange valves 1" to 1 1/2".

Write TODAY on your letterhead for FULFLO MECHANICAL DATA BOOK

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

For more details circle NED-8669 on enclosed inquiry slip

Index to Advertisers

A

Acme Electric Corp. 53
Acromark Co., The 70
Adams, R. P., Co., Inc. 5
Aero-Motive Mfg. Co. 7
Aeroquip Corp. 62
Aget-Detroit Co. 17
Airborne Accessories Corp. 46
Airetool Mfg. Co. 17
Alan Wood Steel Co. 23, 54
Aldrich Pump Co., The 66
Allegheny Plastics, Inc. 59
Allen-Bradley Co. 59
Allied Products Corp. 5
Allied Radio 36
Allied Structural Steel Companies 4
Allis Chalmers..11, 26, 39, 50, 63
Alsop Engrng. Corp. 18
Alter, Harry, Co., The 34
Aluminum Co. of America... 59
Aluminum Ladder Co. 14
Alvey Conveyor Mfg. Co. ... 75
Alvey-Ferguson Co., The 80
American Abrasive Metals Co. 26
American Air Filter Co., Inc. 21, 35
Amer. Chain & Cable...10, 14, 16
American Felt Co. 69
Amer. Gas Accumulator Co.. 67
American Hoist & Derrick Co. 40
American Monorail Co., The. 71
American Optical Co. 78
American Photocopy Equipment Co. 7
American Pulley Co., The ... 17
American Pullmax Co., Inc.. 48
American Screw Co. 70
Amer. Smelting & Refining Co. 48
American Standard Mfg. Co.. 49
American Ventilating Hose Co. 69
American Welding & Mfg. Co., The 19
American Wheelabrator & Equip. Corp. 25, 54
Ames, B. C., Co. 67
Anchor Steel & Conveyor Co. 11
Anthony Company 13
Anti-Corrosive Metal Products Co., Inc. 38
Apco Mossberg Co. 53
Arcos Corp. 72
Armstrong-Blum Mfg. Co. .. 52
Armstrong-Bray & Co. 22
Aro Equipment Corp., The... 37
Art Wire & Stamping Co. ... 75
Ashworth Bros., Inc. 41
Assembly Products, Inc. 76
Associated Research, Inc. ... 75
Atlas Industrial Corp. 67
Atlas Press Co. 64
Atkomatic Valve Co., Inc. .. 58
Austenal Laboratories, Inc., Microcast Div. 36
Automatic Transportation Co., Div. of The Yale & Towne Mfg. Co. 56
Automatic Valve Co. 5
Automotive & Aircraft Div., Amer. Chain & Cable..... 16

B

Bacharach Industrial Instrument Co. 79
Baker Ind. Truck Div. of The Baker-Raulang Co. 76
Bal, William, Corp. 27
Ballymore Co., The 70
Barber-Colman Co. 70
Bartelt Engineering Co. 65
Bauer & Black Div. of The Kendall Co. 44
Beach-Russ Co. 44
Beaumont Birch Co. 53
Bee Chemical Co. 2
Bellows Co., The 71
Belt Corp., The 56
Bendix Aviation Corp. 8
Bernz. Otto, Co., Inc. 11
Beverly Shear Mfg. Co. 79
Biddle, James G., Co. 48
Bin-Dicator Co., The 77
Black & Decker Mfg. Co., Van Dorn Div. 80
Black Diamond Saw & Machine Works, Inc. 16
Black Drill Co. 32
Black, Sivalls & Bryson, Inc. 38
Blackhawk Mfg. Co. 31
Blackmer Pump Co. 10
Blaw-Knox Div. of Blaw-Knox Co. 66
Bond Foundry & Machine Co. 29
Borg-Warner, Rockford Clutch Div. 49
Bostitch, Inc. 6
Boston Gear Works 64
Bowser, Inc. 69
Bradley Washfountain Co. .. 45
Brady, W. H., Co. 26, 51
Brady-Milwaukee Co., Div. of W. H. Brady Co. 51
Breeze Corp., Inc. 73
Breuer Electric Mfg. Co. ... 37
Bridgeport Thermostat Div., Robertshaw-Fulton Controls Co. 24
Bristol Co., The 77
Brown Engrng. Co. 73
Browning Mfg. Co., Inc. 2
Brummeler Steel Prod. Corp.. 45
Bruning, Charles Co., Inc. .. 61
Buckingham Mfg. Co., Inc... 76
Buell Engrng. Co. 57
Burgess-Manning Co. 14
Buschman, E. W., Co., Inc., The 8

C

Cabot, Samuel, Inc. 13
Cambridge Wire Cloth Co. .. 33
Campbell-Hausfeld Co., The. 44
Campbell Machine Div., Amer. Chain & Cable..... 14
Carlon Products Corp. 3
Carlson & Sullivan, Inc. 4
Carpenter Steel Co., The 49
Carter Products Co., Inc. ... 43
Carter Products Corp. 3
Celluplastic Corp. 33
Centric Clutch Co. 39
Century Electric Co. 13
Chain Belt Co. 6
Champion Lamp Works 78
Champion Pneumatic Machinery Co. 48
Chicago Mfg. & Dist. Co..... 29
Chicago Metal Hose Corp. ... 79
Chicago Rivet & Machine Co. 26
Chicago Tool & Engrng. Co.. 22
Chicago Watchclock, Div. Great Lakes Industries, Inc. 7
Chippewa Paper Products Co., Inc. 72
Chisholm-Moore Hoist Corp.. 9
Cinch Mfg. Corp., Howard B. Jones Div. 64
Circo Products Co. 67
Clair Mfg. Co., Inc. 4
Clark Bros. Bolt Co. 58
Clark Ind. Truck Div. of Clark Equip. Co. 73
Clemson Bros., Inc. 45
Cleveland Crane & Engrng. Co., The 14, 51
Cleveland Grinding Machine Co., The 23
Cleveland Vibrator Co., The. 60
Cleveland Worm & Gear Co., The 9
Climax Molybdenum Co. 6
Cochrane Corp. 60
Colson Corp., The 19
Commander Mfg. Co. 29
Commercial Shearing & Stamping Co., The 67
Congress Drives 37
Continental Screw Co. 40
Convoy, Inc. 21, 54
Cover, H. S. 8
Crandall Engineering Co., The 71
Crane Co. 26
Curran Corp. 27, 47
Cushman & Denison Mfg. Co. 19
Cutler-Hammer, Inc. 60

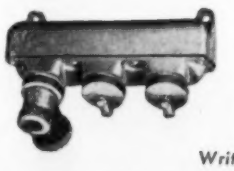
D

D & M Products, Inc. 53
Danly Machine Specialties, Inc. 10
Dart, E. M., Mfg. Co. 48
Daven Co., The 2
Davis Regulator Co. 25
Dempster Brothers, Inc. 65
Denison Engrng. Co., The... 66
Detecto Scales, Inc. 32
Detroit Hoist & Machine Co.. 51
Detroit Power Screwdriver Co. 37
Detroit Reamer & Tool Co. .. 18
DeWalt, Inc. 46
Di Machine Corp. 2
Dial Light Co. of America, The 70
Diamond Chain Co., Inc. 24
Dico Corp. 60
Dietzgen, Eugene, Co. 23
Dodge Mfg. Corp. 63
Dollinger Corp. 69
Dravo Corp. 49
Dremel Mfg. Co. 76
Dresser Mfg. Div. Dresser Industries, Inc. 44

R & S RECEPTACLES, PLUGS and SWITCHES
U.S. Coast Guard Approved
SAFE OPERATION AT SEA

Positive grounding by means of housing and separate contact for safety circuit.
Polarized by means of contact arrangement — impossible to insert plug incorrectly.
All contact surfaces are precision machined and adjusted for maximum contact pressure, reducing arcing to a minimum.
Switches are reciprocating type — quick make — quick break.

Threaded caps for sealing receptacle openings are fastened to covers with strong hinged straps.

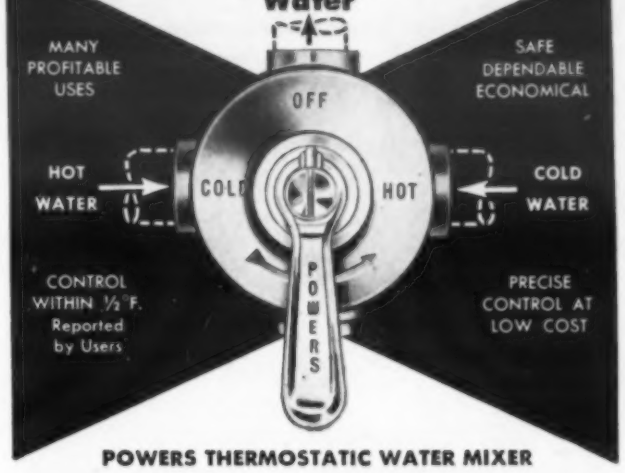


Write for Catalog 9048-15.

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.
SINCE 1902

For more details circle NED-8670 on enclosed inquiry slip

Hot—Warm—Tepid or Cool Water



POWERS THERMOSTATIC WATER MIXER

Can It Solve a Problem for You?

Set a Powers Mixer for any temperature desired and forget it. Temperature remains constant regardless of fluctuations of *pressure* or *temperature* in water supply lines. Failure of cold water supply instantly shuts off delivery.

Is widely used for X-Ray and color film developing, hydrotherapeutic baths, chocolate enrobers and other processes requiring exact control. It is the safest regulator made for shower baths.

CAPACITY—10 gals. per min. at 45 psi. Dial diam. 3 1/4". Pipe connections 1/2". Temp. Ranges: 65° to 115°F.; 60° to 125°F.; 75° to 175°F. *Write for Bulletin 358-H.*

LARGER CAPACITIES up to 1000 gpm. available in other types of controls. *Write for Cat. 3035.* (HA)

THE POWERS REGULATOR COMPANY
2740 Greenview Avenue, Chicago 14, Illinois
Established 1891 • Offices Over 50 Cities • See Your Phone Book

For more details circle NED-8671 on enclosed inquiry slip

SMALL PARTS

- WIRE STRAIGHTENING, CUTTING in perfect, straight lengths to 12 ft., from .0015 to .125 dia.
- WIRE FORMS From .0015 dia. to .080 dia.
- SMALL METAL STAMPINGS From .0025 to .035 thickness From .062 to 3 inches wide

We make a specialty of the production of parts for electronic and cathode ray tubes

We have the skill, capacity, experience and modern equipment to turn out an infinite variety of small forms, parts and stampings in ferrous and non-ferrous metals and alloys *accurately, economically* and *on time.*

WRITE for illustrated folder showing scope, variety and industries served — or SEND BLUEPRINTS, or samples, for prompt quotations.

ART WIRE & STAMPING CO.
227 HIGH STREET NEWARK 2, NEW JERSEY

For more details circle NED-8672 on enclosed inquiry slip

SCREWS

Machine, Wood, Cap, Lag, Set, Knurled and Thumb Screws

Brass, Bronzes, Aluminum, Monel, Stainless Steels

Large stocks ready for immediate delivery from distributors and warehouses in principal cities.

FREE STOCK LIST

The H. M. Harper Company,
8212 Lehigh Ave.
Morton Grove, Ill.

Please rush your current stock list of non-ferrous and stainless steel fastenings showing quantities, sizes and types available for immediate shipment.

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-8673 on enclosed inquiry slip

UNIVERSAL

EXPANDED METAL **FLOOR TRUCKS**

MODEL 4-A
Length 60", width 30", height 30".

- **Greater Economy**
- **Greater Utility**

Literature Mailed Promptly Upon Request

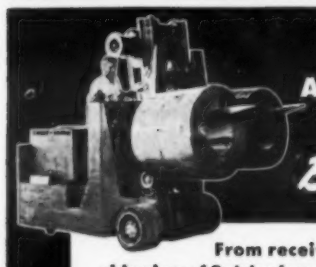
MODEL 4-B
Length 60", width 30", height 48".

Durable, highly maneuverable, economically priced. Designed to meet a wide range of material handling jobs. Rigid angle iron frame. Equipped with four 4" ball-bearing fiber casters—swivel casters centered at front and rear; rigid casters centered on each side. Model 4-B has hinged drop panel on side equipped with positive safety latches.

- Also other types of expanded metal containers in sizes and quantites to customer's specifications.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

For more details circle NED-8674 on enclosed inquiry slip



New MAYTAG Automatic Washer Plant Uses 14 BAKER TRUCKS

From receiving of raw materials to shipping of finished washers BAKER FORK TRUCKS play a vital role in keeping costs to a minimum

FOR EXAMPLE: Handling coils of steel weighing up to 10,000 pounds with a Baker Fork Truck has made it possible to save by buying full-width coils.

Machined parts are received and stored in special bins—designed for easy access and visibility, and for safe high tiering and handling with fork trucks.

Diecast metal in bundles of pigs is unloaded and tiered with Baker 4,000 pound fork trucks.

One operator with a Baker (light-weight, low-cost) Fork Truck loads cars with finished machines in the time it would take four men with hand trucks.

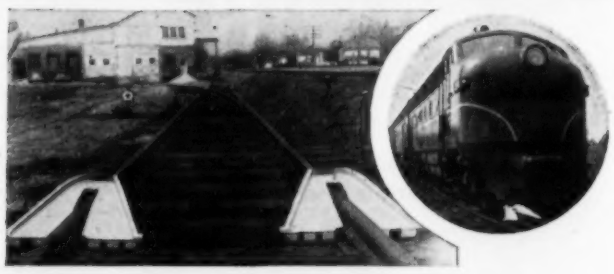
Write for information

BAKER INDUSTRIAL TRUCK DIVISION *of The Baker-Raulang Company*
1245 West 80th Street • • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

For more details circle NED-8675 on enclosed inquiry slip

NOLAN RERAILERS



will rerail any type or size of locomotive or car in record time!

● Your biggest Diesel or smallest yard car can be put back on the tracks in record time . . . easily, safely, surely . . . with Nolan Rerailers. Patented, scientifically designed Nolan features put derailed rolling stock back into productive service at low cost. Thousands in use by railroad operators all over the world. Recommended by Safety Inspectors and Engineers. Built of special high-carbon steel for rugged service.

How Nolan Rerailers Work. Nolan Rerailers are used in pairs, and will retrack wheels from either or both sides of rail at same time. Each Rerailer straddles the rail, with the narrow end on top of the rail. The derailed wheel comes up the gradual slope, and is forced back on to the rail by the guiding grooves and ridges. Can be used anywhere on the track.

The Nolan Rerailer is the only one that has a self-contained lock.

Size of Rerailer	For Use on Rails as Follows	Locomotive or Car Capacity
No. 2	16 lbs. to 40 lbs.	10 tons
No. 3	30 lbs. to 60 lbs.	15 tons
No. 3½	40 lbs. to 70 lbs.	20 tons
No. 4	50 lbs. to 75 lbs.	40 tons
No. 5	70 lbs. to 100 lbs.	100 tons
No. 5½	85 lbs. to 133 lbs.	200 tons
No. 6	85 lbs. to 155 lbs.	300 tons

F. O. B. Bowerston, Ohio
Send Order Now! Immediate Delivery. Complete Satisfaction Guaranteed! Free Descriptive Literature if desired!

THE NOLAN COMPANY • 128 Pennsylvania Street, Bowerston, Ohio

For more details circle NED-8676 on enclosed inquiry slip

Advertisers Index—Continued

Driv-Lok Pin Co. 68
Duff-Norton Mfg. Co., The.. 50
duMont Corp., The 61

E

Eastman Kodak Co. 31, 55
Elastic Stop Nut Corp. of America 20
Electric Controller & Mfg. Co., The 20
Electroline Co. 42
Electromode Corp. 22
Electro-Therm Inc. 46
Emerson Electric Mfg. Co., The 37
Enterprise Machine Parts Corp., The 18
Essex Wire Corp. 30, 53
Exact Weight Scale Co., The 47
Ex-Cell-O Corp. 71
Executone, Inc. 74

F

Fafnir Bearing Co., The..... 19
Fairfield Mfg. Co. 71
Farquhar, A. B., Co. 78
Farrelloy Co. 15
Federal Products Corp. 25
Felt Products Mfg. Co. 78
Fenwal, Inc. 51
Fisher Governor Co. 43
Flash Box Opener Co., Inc... 66
Flash-Stone Co., Inc. 15
Flexible Steel Lacing Co. 66
Flexible Tubing Corp. 33
Flexrock Co. 80
Food Machinery & Chemical Corp., Peerless Pump Division 50
Foredom Electric Co. 65
Foxboro Co., The 5
Frick-Gallagher Mfg. Co., The 18
Friez Instrument Div. Bendix Aviation Corp. 8
Fulflo Specialties Co., Inc. .. 75
Fuller Brush Co., The 47

G

Garrett, George K., Co., Inc. 55
Gast Mfg. Corp. 37
General Box Co. 29
General Electric Co. 43, 65
General Fittings Co. 63
General Radio Co. 35
General Scientific Equipment Co. 9
General Tire & Rubber Co., The 27
Georgia-Pacific Plywood & Lumber Co. 18
Gerrard Steel Strapping Co... 58
Goggle Parts Co., The 58
Goodrich, B. F., Co., The.... 63
Gorton, George, Machine Co.. 17
Goulds Pumps, Inc. 70
Govro-Nelson Co. 11
Graham Transmissions, Inc... 35
Graymills Corp. 73
Great Lakes Industries, Inc., Chicago Watchclock Div... 7
Grieve-Hendry Co. 3
Grinnell Co., Inc. 44
Guardian Electric 74

H

Haloid Co., The 16
Hamilton Tool Co., The 72
Hammond Machinery Builders, Inc. 7
Hannifin Corp. 13, 57, 72
Hansen, A. L., Mfg. Co. 42
Hansen Mfg. Co., The 16
Harper, H. M., Co., The..... 75
Hart Mfg. Co., The 78
Hartzell Propeller Fan Co. .. 34
Hein-Werner Corp. 68
Hill Acme Co., The 78
Homer Mfg. Co., Inc., The.. 10
Homestead Valve Mfg. Co... 65
Honan-Crane Corp. 40, 41
Houghton, E. F., & Co. 74
Howe & Fant, Inc. 9
Hunt, Rodney, Machine Co. . 64
Huot Mfg. Co. 31
Huppert, K. H., Co. 25

I

I. T. E. Circuit Breaker Co.. 5
Ideal Industries, Inc. 3
Illinois Testing Laboratories, Inc. 56
Imperial Tracing Cloth 57
Industrial Brownhoist Corp.. 36
Industrial Engrng. & Mfg. Co., Inc. 76
Industrial Equipment Co. ... 32
Industrial Gear Mfg. Co. 15
Industrial Gloves Co. 31
Industrial Marking Equipment Co. 3
Industrial Products Co. ...33, 54
Industrial Shredder & Cutter Co. 20
Industrial Tape Corp. 54
Ingersoll-Rand 59
International Staple & Machine Co. 33
International Twist Drill Corp. 55
Ironbound Box & Lumber Co. 30

J

Jefferson Electric Co. 69
Jeffrey Mfg. Co., The 24
Jelliff, C. O., Mfg. Corp., The 36
Johns-Manville 79
Johnson Bronze 51
Jones, Howard B., Div. Cinch Mfg. Corp. 64
Jones & Laughlin Steel Corp.. 3

K

Kalamazoo Tank & Silo Co., Machine Tool Div. 25
Kano Laboratories 8
Kaytee Products 40
Kendall Co., The, Bauer & Black Div. 44
Kester Solder Co. 50
Kett Tool Co., The 60
Keuffel & Esser Co. 57
Kim Hotstart Mfg. Co. 13
Kirk & Blum Mfg. Co., The.. 8
Kold-Hold Mfg. Co. 31
Korb-Pettit Wire Fabrics & Iron Works, Inc. 62

L

Lanham Co., The 39
Lapp Insulator Co., Inc. 55
Lawlor, S. C., Co. 15
Leiman Bros., Inc. 64
Lepel High-Frequency Laboratories, Inc. 53
Leslie Co. 76
Lewis-Shepard Products, Inc. 36
Lift Trucks, Inc. 6
Lima Electric Motor Co., The 56
Lincoln Engineering Co. 10
Linde Air Products Co., The, Unit of Union Carbide & Carbon Corp. 31
Link-Belt Co. 33, 73
Littell, F. J., Machine Co. .. 61
Logan Co. 4
Louden Machinery Co., The. 47
Lug-All Co., The 20
Luma Electric Equipment Co. 55
Lupomatic Industries, Inc. .. 34
Lyon-Raymond Corp. 64

Mc

McCord Corp. 11
McGill Mfg. Co., Inc. 17

M

M B Mfg. Co., Inc., The 50
Machine Products Corp. 58
Madison Mfg. Co. 36
Mason-Neilan Regulator Co... 72
Masonite Corp. 34
Mathews Conveyer Co. 40, 41
May-Fran Engineering, Inc. . 46
Mead Specialties Co. 16, 65
Mercoid Corp., The 68
Merrill Bros. 12
Metals & Controls Corp. 14
Metzgar Co. 29
Meyers, W. F., Co., Inc. 66
Micromatic Hone Corp. 74
Midland Structural Steel Corp. 4
Milwaukee Dustless Brush Co. 20
Minneapolis - Honeywell Regulator Co. 80
Mitts & Merrill 29, 62
Motch & Merryweather Machiney Co., The 13
Mortell, J. W., Co. 80
Moto-Truc Co., The 68
Multi-Clean Products, Inc. .. 39

N

National Acme Co., The 62
National Cylinder Gas Co. .. 45
National Lock Washer Co., The 22
National Pneumatic Co., Inc. 46
National Safe-Line Clamp Co. 70
National Screw & Mfg. Co., The 44

4½" CONTACT METER

with ***Adjustable*** **MICRO-CONTACTS**

Model 451-C 4½" x 3¾"

The new Model 451-C contact making meter gives a long scale in a full 4½" meter. All ranges from 20 microamperes full scale provide indicator or control in voltmeters and millivoltmeters as well as ammeters, milliammeters and microammeters, both AC and DC.

With the addition of this large scale 451-C the contact meters are now available in three sizes, 2½", 3¾" and 4½". All are regular jeweled moving coil meters with built-in Micro-Contacts that make positive contact at any point on the meter scale. The construction and principals of operation are fully described in Bulletin CMR-5.

Double contact and single contact arrangements are available. Contacts may be fixed, pre-set or they may be adjustable over the entire meter scale, or any part of it.

Unbreakable clear plastic cases provide beauty of modern design plus practical rugged construction. Matching panel meters in the same style cases may be used for harmonizing installations.

Simplytrol Contact Meter prices start at $26.00. They provide simple and economical direct control for many uses. Assembly Products, Inc., Chagrin Falls 7, Ohio. Phone CH 7-7688. (Cleveland)

For more details circle NED-8678 on enclosed inquiry slip

A few turns will do it!...

BUCKINGHAM... *Thread* RESTORERS

Just slip on, tighten and turn. That's all there is to it—it's that simple... and quick... And what *results!*

Flats and nicks are eliminated—even heavily rusted and corroded threads are cleaned pronto. No more drilling or hack sawing to restore damaged male threads—when you have a Buckingham Thread Cleaner handy.

Follows the pitch of any right or left hand thread—sizes range from ¼" to 4" root diameter. No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. See your nearest Buckingham dealer—or write.

6103 — ¼" to 1" root diam..	$ 6.50
6203*— ¼" to 1" root diam...	8.50
6104 — 1" to 2 9/16" root diam.	12.00
6106 — 2" to 4" root diam...	27.50
6204*— 1" to 2 9/16" root diam.	21.00

*Short swing type.

BUCKINGHAM MANUFACTURING CO., INC.
65-67 Travis Street Binghamton, N. Y.

For more details circle NED-8679 on enclosed inquiry slip

NEW DREMEL
3-Purpose
ELECTRIC ERASER
Only **$15.00**
With Accessories in Convenient Kit

1. ERASES BETTER—FASTER
2. QUICKLY SHARPENS PENCIL AND COMPASS LEADS
3. BURNISHES ERASED AREAS FOR CLEAN RE-INKING

The exclusive worm-gear drive of this new Dremel Electric Eraser . . . producing an even flow of power and an ideal erasing speed of about 2,000 r.p.m. . . . eliminates burning or tearing of paper, the common objection to ordinary electric erasing. Dremel's vibrationless motor permits pin-point erasing accuracy. Perfectly balanced design and weight of only 12 ounces make it a joy to use. Furnished with kit containing three grades of eraser tips, and six pencil sharpening discs. If your regular dealer can't supply, order direct from factory postpaid—fully guaranteed.

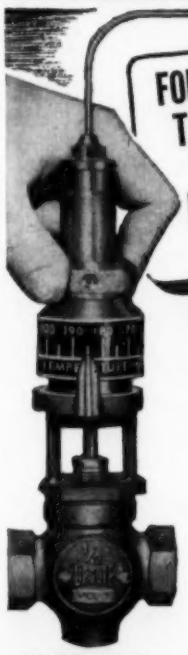
Sands Pencil Leads To Needlepoint Sharpness

Ball Point Smooths Paper for Perfect Re-Drawing

DREMEL

DREMEL MFG. CO. Dept. 1240-L Racine, Wis.

For more details circle NED-8677 on enclosed inquiry slip



FOR QUICK, EASY, DEPENDABLE TEMPERATURE SETTINGS... the New LESLIE Calibrated Dial is the Answer!!

The new *CALIBRATED DIAL* now available on Leslie Class T and Class M Temperature Regulators provides quick, easy and dependable temperature settings.

Features

★ **TIME SAVING**—*Just turn the dial to the desired setting—no waiting for equipment to heat up to find out if setting is correct.*

★ **SAFE**—*Avoids costly overheating caused by guess setting.*

★ **RUGGED**—*Designed for production line use where frequent dependable readjustments are necessary.*

★ **SIMPLE**—*Fits in place of standard adjusting sleeve. No complicated mechanism to go out of order.*

LESLIE Temperature Regulator Class MCC-1

SEND FOR — copy of Temperature Regulator Bulletin No. 4648

227 Grant Ave. • Lyndhurst, New Jersey

ESTABLISHED 1900 LESLIE CO. FIFTIETH ANNIVERSARY

PRESSURE REDUCING VALVES • PRESSURE CONTROLLERS
FLOATLESS LEVEL CONTROLS • PUMP GOVERNORS
TEMPERATURE REGULATORS • SELF CLEANING STRAINERS
AIR HORNS • STEAM WHISTLES

For more details circle NED-8680 on enclosed inquiry slip

NEW! IMPROVED! 1951 MODEL TRI-SAW

ALL-PURPOSE PORTABLE POWER HACKSAW

Only the sensational new time and work saving Tri-Saw gives you all these advantages:

- Makes any cutting job easier ... quick ... economical
- Cuts most *anything* ... *anywhere* ... wood, sheet metal, heavy metal, nails, pipe, etc.
- Cuts directly into floors and walls without starting hole
- Fits any heavy duty 1/4" or 5/16" drill

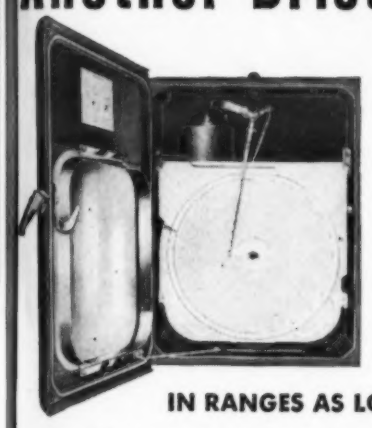
SPECIAL TRADE-IN OFFER! (limited time only)

Trade your used Tri-Saw for new 1951 model. Extra savings! For details see your jobber or write—

TRI-SAW CORPORATION
St. Louis 17, Missouri
Distributed nationally by
E. R. PRINCETON & ASSOCIATES
2456 W. Diversey Blvd. • Chicago 47, Illinois

For more details circle NED-8681 on enclosed inquiry slip

Another Bristol First!



Accurate Mechanical Recording and Controlling of Absolute Pressure

IN RANGES AS LOW AS 0 TO 6 MM.!

Now you can get a direct reading of pressure above zero absolute, inherently corrected for barometric variations, with far greater accuracy than ever before.

Bristol's new Series 500 Low-Range Absolute Pressure Recording Gauge uses a *single* calibrated bellows, evacuated to practically a perfect vacuum, enclosed in a pressure-tight housing. *No compensation needed* for barometric pressure!

Available for recording, pneumatic or electric controlling, and pneumatic or electric remote transmission. Write for Bulletin G620.

THE BRISTOL COMPANY, 112 Bristol Road, Waterbury 20, Conn. (The Bristol Company of Canada, Ltd., Toronto, Ont.)

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

For more details circle NED-8682 on enclosed inquiry slip

Now VICKERS HYDRAULIC (OIL) ACCUMULATORS

For Industrial Machinery Hydraulic Control Systems

Used where hydraulic power is required intermittently, it stores power during the between-demand periods. Oil (practically incompressible) is pumped into accumulator against a synthetic rubber oil-proof gas-charged bladder ... compressing the gas and storing hydraulic power that is available as needed. Made in five sizes having net gas-oil capacities from 75 to 2050 cu in; maximum recommended operating pressure is 3000 psi.

Write for Bulletin 50-56

VICKERS Incorporated
Division of The Sperry Corporation
1456 Oakman Blvd. • Detroit 32, Mich.

For more details circle NED-8683 on enclosed inquiry slip

Advertisers Index—Continued

National Tool Co. 61
Naugatuck Chemical, Div. U. S. Rubber Co. 32
Nelson, Herman, Div. Amer. Air Filter Co., Inc. 21
New Hermes, Inc. 27
New Jersey Machine Corp. .. 42
Niagara Blower Co. 23
Nicholson, W. H., & Co. 65
Nicholson File Co. 23
Nolan Co., The 76
North Bros. Mfg. Co. 30
Norton Co. 77
Nugent, Wm., & Co., Inc. .. 26

O

Ohio Nut & Bolt Co., The .. 32
Ohmite Mfg. Co. 19
O'Neil-Irwin Mfg. Co. 30
Orr & Sembower, Inc 49
Ortman-Miller Machine Co., Inc. 58
Ozalid, Div. of General Aniline & Film Corp. 27, 54

P

Pabco Products, Inc. 17
Paddock Tool Co. 32
Page Steel & Wire Div. Amer. Chain & Cable Co., Inc. .. 10
Palley Supply Co. 34
Pangborn Corp. 20, 67
Parks-Cramer Co. 50
Peck & Harvey 4
Peerless Electric Co., The .. 18
Peerless Pump Div., Food Machinery & Chemical Corp. . 50
Penetone Co., The 7
Penn Metal Corp. of Penna. . 45
Pereny Equipment Co. 57
Photoswitch Inc. 11
Pike, E. W., & Co. 27
Pioneer Patents & Products Co. 71
Pioneer Rubber Co., The ... 63
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co. .. 12
Pneu-Trol Devices, Inc. 77
Porter-Cable Machine Co. ... 57
Powers Regulator Co., The .. 75
Princeton, E. R., & Associates 77
Production Instrument Co. . 36
Products Research Co., Spring Packing Corp. 35
Punch-Lok Co. 42
Pyramid Instrument Corp. .. 6

R

Ransome Machinery Div., Worthington Pump & Machinery Corp. 42
Rapids-Standard Co., Inc., The 30
Rauland-Borg Corp. 57
Redmond Co., Inc. 6
Reznor Mfg. Co. 69
Ridge Tool Co., The 51
Robbins & Myers, Inc., Hoist & Crane Div. 35
Robertshaw-Fulton Controls Co. Bridgeport Thermostat Div. 24
Rockford Clutch Div. Borg-Warner 49
Rock-Tred Corp. 77
Rockwell Mfg. Co. 12
Rockwood Sprinkler Co. ...19, 66
Rodgers Hydraulic, Inc. 62
Rotor Tool Co., The 68
Ruemelin Mfg. Co. 64
Russell & Stoll Co., Inc. ..28, 75
Ryerson, Josept T., & Son, Inc. 4
Rynel Corp. 61

S

Sabin Machine Co., The 28
Safety Belt-Lacer Co. 42
Sarco Co., Inc. 28
Schrader's, A., Son, Div. Scovill Mfg. Co., Inc. 46
Schramm, Inc. 40
Screen Equipment Co., Inc. .. 14
Service Industries 43
Service Machine Co., Inc. .. 73
Service Recorder Co., The .. 42
Severance Tool Industries, Inc. 41
Sheldon Machine Co., Inc. .. 13
Skinner Electric Valve Div., The Skinner Chuck Co. .. 32
Sly, W. W., Mfg. Co., The .. 38
Smith, G. W., & Sons, Inc. .. 74
Smooth-On Mfg. Co. 12
Spencer Thermostat Div. Metals & Controls Corp. .. 14
Spencer Turbine Co., The ... 43
Sperry Corp., The, Vickers, Inc. Div. 77
Spo Inc. 16
Sprague Electric Co. 38
Spray Engineering Co. 24
Spring Packing Corp., Products Research Co. 35
Stackbin Corp. 22
Stackpole Carbon Co. 3
Stalwart Rubber Co., The ... 5
Standard Conveyor Co. 38
Standard Pressed Steel Co. 22, 39, 69
Stanley Electric Tool Div. .. 21
Stanley Works, The 62
Sta-Warm Electric Co. 24
Stearns Magnetic Mfg. Co. .. 80
Stephens-Adamson Mfg. Co. . 8, 9
Sterling Electric Motors 24
Stevens Mfg. Co., Inc. 9
Stonhard Co. 79
Struthers-Dunn, Inc. 41
Sturtevant Mill Co. 52
Sunnen Products Co. 28
Synthane Corp. 21
Syntron Co. 14, 45, 59

T

Tempil Corp. 52
Thomas Truck & Caster Co. 21
Toledo Scale Co. 72
Toledo Timer Co., The 12
Tomkins-Johnson Co., The ... 52
Torit Mfg. Co. 60
Tote System, Inc. 12
Tower, A. J., Co. 56
Triplett Electrical Instrument Co. 74
Tri-Saw Corp. 77
Truscon Steel Co. 50
Twin Disc Clutch Co. 35

U

Union Carbide & Carbon Corp., The Linde Air Products Co., Unit 31
Union Metal Mfg. Co., The .40, 41
Union Special Machine Co. .. 52
United Electric Controls Co. . 28
United Laboratories, Inc. ... 8
United States Drill Head Co. 43
U. S. Industrial Glove Corp. 2
United States Instrument Corp. 80
U. S. Machine Tool Co., The Div. U. S. Burke Machine Tool Co. 56
U. S. Rubber Co., Naugatuck Chemical Div. 32
Universal Engrng. Co. 47

V

Valvair Corp. 2
Van Dorn Electric Tool Co., The 80
Veeder-Root, Inc. 78
Vickers Inc., Div. of The Sperry Corp. 77
Vogel-Peterson Co. 68
Vulcan Electric Co. 58

W

Wallace & Tiernan Products, Inc. 71
Wales-Strippit Corp. 61
Ward Leonard Electric Co. .. 34
Webb, Jervis B., Co. 7
Weller Electric Corp. 49
Wellman Bronze & Aluminum Co., The 10
West Bend Equipment Corp. 59
Western Lithograph Co. 12
Westinghouse Air Brake Co. 23
Westinghouse Electric Corp. 25
Weston Electrical Instrument Corp. 38
Wheeler Reflector Co. 48
Whitney Chain Co. 47
Wiegand, Edwin L., Co. 4, 55
Wiggins, E. B., Oil Tool Co., Inc. 79
Willson Products, Inc. 48
Wolverine Tool Co. 28
Wood's, T. B., Sons Co. 79
Wood Conversion Co. 41
Worthington Pump & Machinery Corp. 21, 42, 72

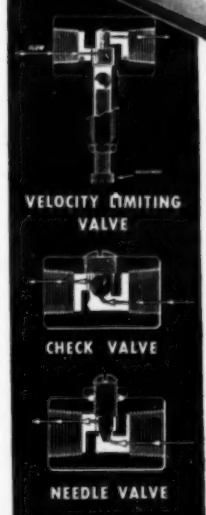
Y

Yale & Towne Mfg. Co., The 15, 39, 52
Yarnall-Waring Co. 30, 63

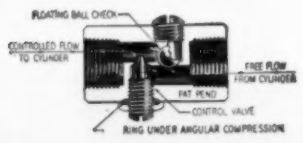
Z

Zagar Tool, Inc. 15

FLOW CONTROL VALVE for Cylinder Speed ADJUSTMENTS over a WIDE RANGE IN AIR OR HYDRAULIC USE



The Pneu-Trol Flow Control Valve combines an efficient Stainless Steel FLOATING BALL CHECK which opens and closes at the slightest change in flow direction, with a Vernier Type VARIABLE NEEDLE ORIFICE adjustment in a compact control which has widened air and hydraulic cylinder application by providing precise control of cylinder action. Modifications of the Pneu-Trol Valve are available as Plain Check, check with Fixed Orifice (orifice drilled by customer in the Standard Check Valve), Needle Valve and Velocity Limiting Check, as illustrated at left. All Pneu-Trol Valves are made from bar stock in brass (up to 1000 psi) or steel (5000 psi) or other body metals to your specifications. All internal parts are Stainless. All valves available in 5 sizes—1/8", 1/4", 3/8", 1/2" and 3/4". Attractive prices — immediate delivery. Write for illustrated circular and price list.



WRITE ...

Pneu-Trol Devices, Inc.
3122 N. California Ave. Chicago 18, Ill.

For more details circle NED-8684 on enclosed inquiry slip

RESN-X

Amazing New Heavy-Duty Flooring
STOPS MANY FLOOR BREAKDOWNS

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 5

For more details circle NED-8685 on enclosed inquiry slip

Designed to Cut Your Portable Grinding Costs . . .

Fast-Cutting NORTON WHEELS

Made with the right abrasive and bond combinations for fast cut and long life. Available in the right sizes and shapes to handle every portable grinding job quickly and easily. For full details, send for Form 1405 NE.

NORTON COMPANY · WORCESTER 6, MASS.
Distributors In All Principal Cities

For more details circle NED-8686 on enclosed inquiry slip

BIN-LEVEL CONTROLS

2 BIN-DICATORS Often Replace 1 Man

BIN-FLO Aerating Units Keep Finely-Ground Materials Moving

ECONOMICAL MATERIAL CONTROL

DEPENDABLE BIN-LEVEL INDICATION

Mail this Coupon

THE BIN-DICATOR CO., 13946 Kercheval, Detroit 15, Mich.

Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units. D-11

Name_____
Address_____
City_____ Zone____ State____

For more details circle NED-8687 on enclosed inquiry slip

EMERGENCY MANPOWER

"CANTON" Portable Floor Crane. Lifts — transports — spots loads up to 3 tons. One man operation. Emergency manpower for any corner of the shop. Made in varying heights and lifting capacities. Light weight welded tubular steel construction. Safe—Inexpensive—Adaptable.

The HILL ACME Company "CANTON" DIVISION 6404 Breakwater Ave CLEVELAND 2, OHIO

FOR FULL DATA, WRITE TODAY FOR BULLETIN 49.

For more details circle NED-8688 on enclosed inquiry slip

CHAMPION'S G.R.* saves you 60% LABOR TIME 0 LABOR COSTS

Industrials—Stores—Office Buildings—Schools and others can profit by Champion's *GROUP REPLACEMENT (G.R.) PLAN*—the first complete G.R. Plan in fluorescent lamp history!

Individual replacement of lamps is costly. Planned replacement of lamps in groups results in savings. Champion's G.R. Plan, fitted to your operation, will give you lower labor costs, lower starter costs—less interference with production machinery, with workers, students, customers, sales—decreased spoilage of work in process—reduced accident hazards—controlled planned purchasing and maintenance—increased lighting efficiency—improved appearance.

Champion engineering shows you how to benefit by G.R. using your own figures and labor costs in conjunction with Champion's engineered G.R. charts. For detailed information and the G.R. Bulletins, address our Commercial Engineering Department.

*Group Replacement

CHAMPION 7500 HOUR FLUORESCENT Lamps

CHAMPION LAMP WORKS Lynn, Massachusetts A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

For more details circle NED-8689 on enclosed inquiry slip

8-Page Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

For more details circle NED-8690 on enclosed inquiry slip

Index to Products

A

Abrasive Products 54, 77
Accumulators 77
Adhesives 59
Air Conditioning 20, 73
Air Conditioning, Controlled Humidity 23
Air Pads 77
Alloys, Special Purpose 64

B

Bearings; Ball, Roller & Thrust 8, 19
Bearings, Bronze 37, 48, 51
Bellows 24
Belt Fasteners 22, 42, 66
Belts, Conveyor 41
Belting 79
Bins & Boxes, Parts 22, 40
Boxes & Crates, Wooden .. 29
Boxes, Shop 21, 27
Brakes, Magnetic 60
Broaching Equipment 61
Brushes 20, 47
Buckets, Crane 36, 38
Bushings, Drill 47, 71

C

Camera, High Speed 55
Capacitors 38
Casters 19, 21, 29, 42
Castings 10, 36
Cements, Hydraulic 71
Cements, Repair 12, 60
Chains 6, 12, 46
Chains, Roller 24
Charts, Recording 59
Clamping Devices 1, 28, 65
Clamps, Lifting 4, 12
Cleaners, Air 5, 72
Cleaners, Brush 13
Cleaners, Drain 28
Cleaners, Thread 76
Cleaners, Vacuum 3, 37, 43
Cleaning Equipment, Blast 20, 53
Cleaning Machines 1, 39, 65
Cleaning Machines, Parts .. 67
Cleaning Materials ..27, 47, 62
Clocks, Watchmens 7
Clutches 39, 49
Coatings, Protective 2, 43, 58, 59, 63
Collars 22
Communications Equipment.. .....25, 74, 80
Compressors, Air 23, 40, 65
Condensation Preventive 80
Connectors, Electric 5, 64
Controls, Air & Hydraulic 1, 2, 5, 32, 57, 67, 74, 77
Controls, Bin Level 77
Controls, Electric 5, 11, 19, 31, 34, 37, 55, 59, 67, 71, 72, 78, 80
Controls, Production 42
Controls, Remote 16
Controls, Temperature & Pressure 9, 14, 21, 28, 51, 68, 72, 75, 76
Conveyor Accessories 3, 7, 24, 64
Conveyors, Belt 6, 8, 38, 40, 41, 46, 56, 69, 75, 78
Conveyors, Chain 32
Conveyors, Pneumatic 53
Conveyors, Roller 4, 29, 38, 40, 41, 47, 75, 80
Conveyors, Vibrating 1, 80
Conveyors, Wheel 4, 30
Counting Devices 36, 78
Couplings, Flexible 1, 11
Crane Accessories 40
Cranes 33, 56, 66, 70, 71, 78
Crushers 68
Cutoff Machines 14
Cylinders, Air & Hydraulic 5, 9, 13, 16, 29, 34, 58, 67

D

Deburring Equipment 41
Dies 5, 73
Disposal Equipment 29
Door Operator 46, 70
Drafting Equipment ..57, 61, 76
Drill Chip Breaker 29
Drill Dispenser 31
Drill Heads, Adjustable 9, 29, 43, 69
Drilling Attachment, Deep Hole 29
Drilling Machines 11, 64, 80
Drills 32, 55
Drills, Masonry 9, 12
Drives, Machine 11, 13, 24, 35, 45, 56, 70, 72, 73
Drives, Overload Control ... 11
Drives, Variable Speed 12, 21, 26, 33, 35, 43, 65, 70
Drying Equipment 50
Duplicating, Dieless 30
Dust Collectors 8, 17, 20, 25, 35, 37, 38, 48, 57, 60

E

Electronic Equipment 11, 36
Elevating Equipment 59, 72
Engine Preheater 13
Engines, Gasoline 36

F

Fans & Blowers ..1, 18, 34, 37
Fastening Devices 8, 10, 20, 22, 27, 32, 34, 38, 39, 40, 44, 58, 68, 69, 70, 75
Feeders, Stock 54, 71
Feeders, Vibratory 14, 68
Felt Products 69, 74
Fences 10
Files 23
Filtering Equipment 5, 17, 18, 26, 40, 41, 57, 69, 72
Finishes 59, 60
Finishing Equipment, Parts.. .....34, 67, 73
Finishing Equipment, Spray 44
Fire Extinguishing Equipment 19, 62
Flexible Shaft Machines ... 65
Floor Machines 15, 37
Floor Resurfacers 8, 15, 26, 77, 79, 80
Floor Maintenance 7, 39, 47, 49, 59, 60
Flooring Materials 17, 54, 66
Foundry Equipment 8, 49, 67, 68
Furnaces, Industrial ..13, 25, 57
Fuses 69

G

Gages, Level 68
Gages, Precision 11, 23, 25, 27, 30, 38, 40, 67
Gages, Pressure & Temperature 71, 74
Gearing 9, 15, 25, 45, 46, 61, 64, 71
Gloves, Industrial 2, 31, 50, 52
Gloves, Neoprene 63
Grinders, Tool & Cutter 16, 18, 24
Grinding Accessories 64
Grinding Machines 7, 8, 22, 23, 32, 35, 36, 57, 80

H

Hardboard 34
Heat Exchangers 31
Heat Treating Equipment 65
Heaters, Compound 24
Heaters, Electric 46, 55
Heaters, Induction 2, 53
Heaters, Unit 4, 11, 21, 22, 34, 44, 49, 52, 69, 71, 73
Heaters, Water 56, 63
Hoists 9, 20, 35, 39, 52, 67
Holloware, Fiber 27
Honing Equipment 28, 74
Hose & Fittings 16, 42, 62, 69, 73, 79
Humidifying Equipment 17

I

Indicators, Humidity 8
Indicators, Pressure & Temperature 52, 56, 79
Inspection Equipment 7, 27, 53, 57, 58, 61, 69
Instruments, Electric 38, 74
Insulation, Electric ..44, 61, 73

J

Jacks 50, 68
Jacks, Leveling 18
Joints, Rotating 4

K

Keys 47
Keyseater 62

Here's DURATEX... AO's Economical Heavy-Duty Protection Against Oil, Heat, Sparks, Abrasion

AO DURATEX

In one thriftily-priced, long-wearing fabric — AO now offers 4-way protection for jobs where handling oily, greasy, abrasive or hot materials is a problem. While heavily woven to provide maximum protection, Duratex is remarkably flexible for working comfort! Your AO Safety Products Representative can supply you with this heavy-duty protection in mittens, hand pads, sleevelets.

NEW! 4X178 SLEEVELET (10½" long — has snap button adjustment at wrist)

NEW! 8X238 REVERSIBLE HAND PAD (7" long)

NEW! AO 6X259 REVERSIBLE OPEN END MITTEN (8" long) also available as 6X260 (9½" long)

American Optical SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

For more details circle NED-8691 on enclosed inquiry slip

Completely New!

An Entire Series of NEW, SMALL ROTARY SWITCHES By "Diamond H"

Series 240 Switches

Single Hole Mounting Model Shown 1 1/2" high x 1 1/4" wide x 1" deep AND Attractive Bezel-equipped Models for snap-in mounting.

30 Circuit Variations Now Available

Both single hole mounting and snap-in mounting models . . . in double pole and single pole variations for heater, motor and low-volt A.C. electronic circuits.

Ratings: 7½ A, 240 V; 15 A, 120 V; 25 A, 120-240 V; 1 H.P., 120 V; 2 H.P., 240 V; A.C. only.

Underwriters' Laboratories Approved.

NO OTHER SWITCH WILL GIVE YOU ALL THESE LONG-WANTED FEATURES

- *Compactness* — unmatched by any other switch.
- *Heat Resistance* — completely efficient operation with ambient temperatures up to 400°F.
- *Entirely Enclosed*—for safety's sake and protection of working parts.
- *High Overload Capacity* — ratings are conservative.
- *Proven Peak Performance* — thanks to long recognized "Diamond H" slow-break principle and heavy silver contacts.
- *Long Service Life* — because of ingeniously simple design and rugged construction.

Write today for complete details on "Diamond H" Series 240 Switches for your applications.

THE HART MANUFACTURING COMPANY
204 Bartholomew Ave., Hartford, Conn.

For more details circle NED-8692 on enclosed inquiry slip

New! Farquhar SUPER-ACE CONVEYOR

slashes coal handling costs!

Here's a brand *new* Farquhar Portable Conveyor with *exclusive* features *especially designed to save you time and money* in your coal handling operation. Heavy plate construction, channel iron wheel truck, closer tolerances—all give you greater strength with less weight! Bolted construction makes for easy repairs! Top-quality belting, improved pulley construction, deeper, wider return dust pan assures longer belt life! Moving parts feature ball bearings! Either chain and sprocket or V-belt drive!

Farquhar CONVEYORS SAVE YOU MONEY

WRITE NOW for complete information on this new time and money-saving Farquhar Super Ace Portable Coal Conveyor!

A. B. FARQUHAR CO., Conveyor Div., 204 Duke St., York, Pa., or 620 W. Elm St., Chicago 10, Ill.

HYDRAULIC PRESSES • FARM EQUIPMENT • FOOD PROCESSING AND SPECIAL MACHINERY

For more details circle NED-8693 on enclosed inquiry slip

the answers to your Gasket PROBLEMS may be found in this FREE Sample Folder!

Use it to stimulate COST-CUTTING, PRODUCT-IMPROVING Ideas!

You'll be surprised at the variety of materials FEL-PRO utilizes to engineer gaskets to your specific needs! In this free Material Sample Folder you may find just the thing you need to solve a present gasketing problem. If the answer is not in the Sample Folder, FEL-PRO Engineers will be glad to put their complete resources and 30 years of gasketing experience at your disposal. Take advantage of this offer without cost or obligation, by writing for your Free Material Sample Folder.

FELT PRODUCTS MFG. CO., 1510 Carroll Ave., Chicago 7, Ill.

FEL-PRO Utilize Newest Materials ENGINEERED Specifically designed for your product **gaskets**

5145R

For more details circle NED-8694 on enclosed inquiry slip

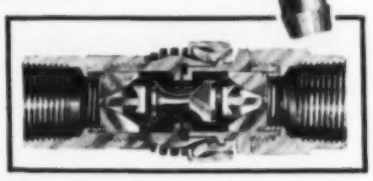
WHEN YOU . . .

Disconnect, You Stop the Flow in *Both* Ends

Wherever the flow of air, fluids, or gases must be interrupted, Wiggins *INST-O-MATIC* couplings are lowering costs. Uncouple a Wiggins. You've automatically stopped the flow in both ends. Connecting, or disconnecting, is as simple as switching on a light. Wiggins *INST-O-MATIC* couplings can increase efficiency in your plant today, and lower costs.

EQUIPMENT MANUFACTURERS

Users' experiences prove conclusively that this design stands up longer under extreme pressure and vibration, and rarely requires replacement. Inquire today.



BASIC SIZES: ¼", ½", ¾"; also intermediate sizes where needed. Unconditionally guaranteed to be leak proof from 0 to maximum recommended pressure.

Wiggins

For proof of performance, write for name of nearest representative.
E. B. WIGGINS OIL TOOL CO., INC., 3424 E. Olympic Blvd., Los Angeles 23, Calif.

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

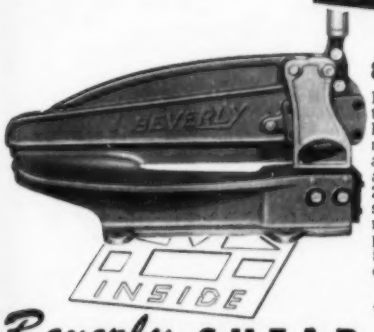
REPRESENTATIVES IN PRINCIPAL CITIES

For more details circle NED-8695 on enclosed inquiry slip

BEVERLY SHEARS SAVE TIME · LABOR · MATERIAL

Make any cut—curved, straight or irregular, faster, easier and better with less material waste on a Beverly Throatless Shear. You can turn work to *any* position and make a clean cut as you go. Handles heavy gauges with ease—lighter metals without distortion. 4 models—capacities 18 gauge to 3/16" mild.

B-3 with Ball Bearing Hold Down



INSIDE SLOTTER
8" Reach—16 ga. capacity

Makes inside slotting cutting faster, easier, cleaner. Punch and die arrangement of 5 blades assures accuracy, clean cutting action. Cuts 2½" x ⅛" or 2½" x 1/16" slot at one stroke. Throat design permits pivoting work at any point in stroke for special inside cuts. Note sample cuts at left.

See your Beverly Dealer or write for illustrated catalog.

Beverly SHEAR MFG. CO.

3016 W. 111TH STEET • CHICAGO 43, ILLINOIS

For more details circle NED-8696 on enclosed inquiry slip

CMH EXPANSION JOINTS

For compact, dependable pipe-line expansion control

CMH precision-made expansion joints are leakproof assemblies for absorbing pipe-line expansion and contraction and for correcting for misalignment. They require no maintenance and are very compact. Three types are available for working pressures up to 1500 psi. Suitable for temperatures to 1400° F. Sizes range from ⅝" to 30" I.D. Write for complete information.

CHICAGO METAL HOSE CORPORATION
1343 S. Third Ave. Maywood, Ill.
Plants at Maywood, Elgin and Rock Falls, Ill.
In Canada: Canadian Metal Hose Co., Ltd., Brampton, Ont.

ONE DEPENDABLE SOURCE
for every flexible metal hose requirement

ils circle NED-8697 on enclosed inquiry slip

Products Index—Continued

L

Labels 2, 4, 26
Ladders 14, 70
Laminated Materials 23
Lathes 13, 31
Lighting Equipment 7, 33, 48, 53, 73, 78
Lights, Pilot 28, 65, 70
Lockers & Shelving 42, 45
Locomotives 67
Lubricants 29
Lubricating Equipment 3, 7, 10

M

Machine Tool Accessories 10, 15, 17, 55
Magnetic Equipment 10, 14, 20, 55, 80
Marking Equipment 3, 5, 6, 12, 19, 25, 27, 68, 69, 70
Masks 51
Materials Handling Equipment 12, 18, 30, 39, 49, 64, 65
Materials Handling, Overhead 7, 14, 32, 47, 71
Metal, Expanded 50
Meters, Electric 18, 76
Meters, Flow 12
Meters, Tong Test 6
Milling Machines 56
Mills, Hammer 31
Mixing Equipment 28, 52, 56
Molybdenum Alloys 6
Motors, Air 4, 37, 64
Motors, Electric..6, 13, 24, 39, 43

N

Notchers 30, 61
Nozzles, Spray 24, 63, 66

O

Office Equipment 7, 10, 35, 42, 53, 54, 64, 69, 72
Oil, Penetrating 8
Opener, Box 66
Ovens, Industrial 3

P

Packaging Equipment & Materials 1, 15, 21, 33, 41, 52, 61, 65, 72
Packings & Gaskets 24, 35, 78, 79
Parts, Precision 36, 58, 75
Pipe & Fittings 3, 48, 50, 58, 66, 79
Pipe Tools & Machines 15, 40, 51
Plastics 3, 21, 32, 60, 63, 65
Plating Equipment 37
Polishing Equipment ..4, 7, 32, 57
Power Units, Hydraulic ..31, 34
Press Brake 65
Presses, Arbor 25
Presses, Hydraulic 14, 62, 66, 72
Presses, Pneumatic 71
Presses, Punch 2
Presses, Stamping 41
Process Equipment 61, 64
Pulleys & Sheaves 2, 19
Pumps 9, 10, 43, 55, 66, 68, 69, 70, 72, 73, 80
Pumps, Vacuum 42, 44, 64
Punches 5

R

Racks 73
Ramps 66
Recording Instruments 5, 16, 41, 77
Rectifiers 45
Reels, Hose 48
Reels, Stock 61
Refrigeration Equipment 34
Relays 1, 41, 67, 74
Rerailers 76
Reproduction Equipment 4, 16, 23, 27, 31, 54, 71
Resistors 2, 34
Respirators 8, 36, 48, 58
Rings 44
Riveting Equipment 26
Rolls 64
Rubber Products 5, 69, 72
Rules, Tape 4

S

Safety Equipment 9, 16, 27, 28, 38, 56, 58, 78
Sapphires 31
Saw Blades 13, 45, 60, 66
Saw Guides 32, 43
Saws, Metal Cutting 25, 52, 60, 77
Saws, Wood 21, 34, 46
Scaffolding 30, 67
Scales 32, 47, 51, 72
Screens 67
Screens, Vibrating 14
Screwdriver, Power 37
Seals 3, 63, 72
Shapers 1, 64
Shears 48, 51, 61, 79
Shop Equipment 18, 45
Shredders 20
Signals 23, 47
Sludge Preventive 74
Solders 15, 50
Solenoids 62
Speed Reducers ..51, 54, 66, 67
Spray Equipment 24, 40, 63, 66
Sprockets 6, 13
Stapling Equipment 6, 33
Steam Generators 20, 22, 49
Steel 3, 4, 66
Steel, Stainless 49
Straightener, Wire 46
Strainers 28
Strapping, Steel 58, 62

T

Tacker, Hand 42
Tachometers 48, 50
Tape Dispenser 17
Tape, Industrial 35, 43, 44, 54, 64
Tapping Machines 29
Telephone Booths, Acoustic. 14
Testing Equipment 35, 38, 48, 75
Timing Devices 74
Tires, Industrial 27
Tools, Boring 36, 39
Tools, Carbide 24, 41
Tools, Hand 54
Tools, Pneumatic 34, 37, 68
Tools, Portable Electric 13, 47, 48, 54, 59
Tools, Soldering 3, 49, 55, 58
Torches 11, 50
Tractors, Hoist 51
Tractors, Industrial 5, 40
Transformers 63, 70
Traps, Steam 65
Truck Bodies, Dumping 65
Truck Gate, Elevating 13
Trucks, Hand 17, 28, 30, 38, 39, 59, 64, 76
Trucks, Industrial Power 6, 15, 26, 29, 36, 49, 52, 56, 68, 73, 76
Tube Fabricating Equipment 34, 44, 65
Tube Rolling Equipment ..17, 19
Tubing & Fittings ..23, 33, 71
Turntable 7

V

Valves 1, 25, 26, 30, 35, 43, 44, 46, 58, 60, 66, 71, 75
Ventilating Equipment 11, 70
Vibration Absorbers 18, 39, 50, 69
Vibrating Equipment 16, 59, 60
Vises 10, 22, 30, 63

W

Wardrobe Equipment 68
Washers 55
Washroom Equipment 45
Water Treatment 65
Welders, Electric 12, 44, 45
Welding Accessories 42, 62, 64, 68, 69, 72, 74
Weldments 19
Wheels, Industrial 21, 60
Winches 9, 20
Winders, Coil 26
Wire Mesh & Screens 33, 36, 62
Wire, Electric 16
Wire Rope & Accessories 42, 70
Wire Specialties 71, 75
Wiring Accessories 17, 30, 37, 53, 75
Wrenches 15
Wrenches, Torque 53

tempoint Dial Thermometer

Indicates up to 1000° F.
FAST · ACCURATELY!

This steel sleeve holder, which is regularly furnished, grips the thermometer stem tightly and provides a convenient and secure means for "hooking" the TEMPOINT into any steel pipe without the need of threads. A threaded-back connection is optionally available.

This precision bi-metal dial thermometer has been designed specifically for flue gas and exhaust gas temperature readings. It is equally well suited for all other applications requiring high temperature tests up to 1000° F., over an exceptionally wide range. It is outstanding for its fast response, permanency of calibration, and easy readability.

The three-inch diameter face with large numerals and clear graduations together with the red V-shaped pointer make the TEMPOINT exceptionally easy to read, at a distance and in dimly-lit locations. The stem is 3/16" O.D. and is available in 5½" or 9" free length. Write for descriptive Leaflet 780.

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 Bennett Street · Pittsburgh 8, Pa.

For more details circle NED-8698 on enclosed inquiry slip

Because it's made of ramie, nature's rot-resistant fiber . . .

NEW NAVALON

Stands up where other packings fail!

This new Johns-Manville Navalon packing is outstanding in reciprocating service against fresh or salt water, brine, cold oil and many other liquids.

Navalon is rot-resistant . . . has the high tensile strength inherent in ramie . . . known for thousands of years for its long-lasting qualities. An exclusive Johns-Manville process of manufacture gives it unusual lubricating properties that further add to its long life in rugged service.

For further information, see your local packing distributor—or send for folder PK-32A. Address Johns-Manville, Box 290, New York 16, N. Y.

Johns-Manville PACKINGS & GASKETS

For more details circle NED-8699 on enclosed inquiry slip

ASK FOR **Wood's "SURE-GRIP" V-BELTS**

Standard Industrial Type V-Belts for general applications; Fractional Horsepower V-Belts for lighter drives; Open End V-Belts for "fixed center" drives; and Steel Cable V-Belts, having greater strength with practically no stretch, adaptable to a wide range of belt speeds. Write for detailed information.

T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.
Branches: Boston, Mass., Newark, N. J., Dallas, Tex., Cleveland, O.

For more details circle NED-8700 on enclosed inquiry slip

FOR SMOOTH, HARD FLOORS Use STONHARD STONPACH.

Designed to resist severe conditions, this material is easy to apply, since nothing but water must be added.

STONHARD STONPACH, resistant to acids, oils, greases, excessive water conditions, etc. gives you a "flint-hard" topping right over your present concrete floor area.

Ideal for dairies, breweries, bottling plants, laundries, food processing plants, etc. where a smooth and sanitary surface is of the utmost importance.

Send for your FREE folder describing STONHARD STONPACH.

STONHARD COMPANY
101 Stonhard Building, 1306 Spring Garden Street
Philadelphia 23, Penna.

Send STONPACH folder to: 101/11/50

Firm .....
Name ..... Title .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-8701 on enclosed inquiry slip

REMOVE WITH ALL TRAMP IRON

Stearns MAGNETIC SEPARATORS

If you are handling chemicals, plastics, grain or some other granular material, a STEARNS Magnetic Separator is your best bet to purify your product and protect expensive crushers and grinders.

That's exactly the job of this STEARNS Type "LS" for a large mid-western soybean processor — installed between a screw conveyor and the intake of a bucket elevator, this STEARNS separator removes all tramp iron from the feed concentrates before going into the pellet machines.

STEARNS Types "LS" and "LP" (left) are complete units for direct attachment to spouts and chutes for dust-tight applications. Electro and permanent magnetic models available in all sizes.

Stearns MAGNETIC MANUFACTURING CO.
653 S. 28th St., Milwaukee 46, Wis.

For more details circle NED-8702 on enclosed inquiry slip

LOOK at these NEW LOW PRICES

#AS471B-0, 25 amps., SPST, 2¾" x 4¼", $1.20
#AS471B-1, 25 amps., SPST, 2¾" x 4¼", $1.45

#AS482A-0, 45 amps., SPST, 2¾" x 4¼", $2.50
#AS482A-1, 45 amps., SPST, 2¾" x 4¼", $2.70

for HONEYWELL Heavy-duty MERCURY SWITCHES

Prices are net to manufacturers for quantities of 100 and up. Type numbers ending in "0" are without leads ... numbers ending in "1" include 7-inch, double cotton covered, extra flexible leads.

Write for complete engineering specifications ... or for immediate action, call the Honeywell branch office nearest you.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division* 4529 Wayne Ave., Phila. 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

Honeywell MERCURY SWITCHES

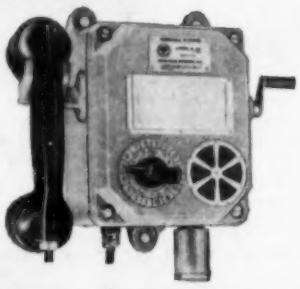
For more details circle NED-8703 on enclosed inquiry slip

U.S.I. SOUND POWERED

assures dependable communication

SAVE TIME . . . DON'T WALK . . . TALK!

Become familiar with the advantages of the U.S.I. Sound Powered telephones and systems for industrial communication. Write for catalog. Dept. Y.



CUT COSTS . . . INCREASE YOUR EFFICIENCY

UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

For more details circle NED-8704 on enclosed inquiry slip

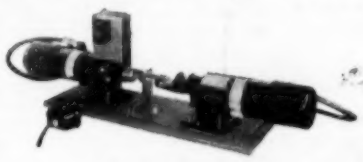
CLOSE-COUPLED PUMP ratings range from 10 to 500 gpm

Capable of delivering rated volume against heads to 220 ft, redesigned close-coupled Electrifugal centrifugal pump can be obtained with removable casing in some sizes and with removable cover plate in others. Motors range in size from ¾ to 10 hp and are available in drip-proof, splashproof, totally enclosed fan cooled or explosionproof types. Design improvements include unit-cast frame that provides permanent alignment, double seal on front motor bearing which keeps liquid out of bearing and large opening in frame between pump and motor to simplify packing maintenance. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-8705 on enclosed inquiry slip

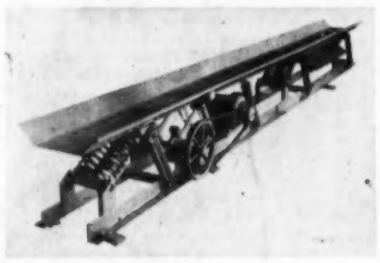
AUTOMATIC DRILLING UNITS facilitate drilling cross holes

Illustrated automatic drilling setup was designed for drilling cross-holes in fishing tackle swivels of seven different sizes. With two drilling units operating simultaneously, cross-holes are drilled at rate of up to 1000 per hour, depending on size of swivel. Device will clamp and unclamp part automatically and can accommodate variety of parts by merely changing design of holding fixture. Made by **Govro-Nelson Co.**, 1935 Antoinette St., Detroit 8, Mich.



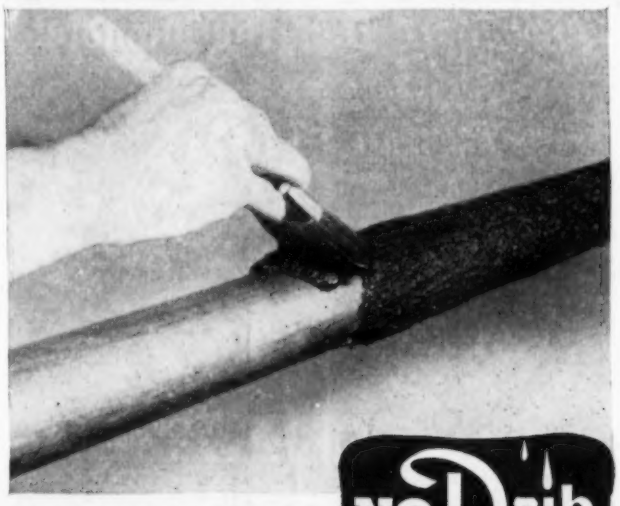
For more details circle NED-8706 on enclosed inquiry slip

VIBRATING CONVEYOR utilizes natural spring frequency



Materials can be conveyed smoothly along flat surface or upward as much as 10 degrees and at speeds up to 24 ips by Natural-Frequency conveyor. Directional-throw vibratory unit consists of pan mounted on springs and vibrated at exact natural frequency of springs by motor-driven eccentric. Hydraulic shock absorber assures that all weight is on springs instead of on eccentric. Unit does not slow down or dampen under load and requires only ¼-hp per 25 tons conveyed for each 10 ft of level length. It is adaptable for screening, blending, drying and cooling operations also. Single units of any length from 5 to 200 ft can be obtained in widths of 6, 12, 18, 36 and 48 in. Only one motor drive is required for each 150 ft of length. Also offered are spiral conveyors and balanced models which need not be bolted to floor. Made by **Whitley-Carrier Co.**, 206 N. Jackson St., Louisville 2, Ky.

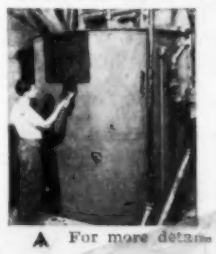
For more details circle NED-8707 on enclosed inquiry slip



COVER PIPES TANKS, WALLS

NoDrip

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating, *STOPS CONDENSATION DRIP.*



NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

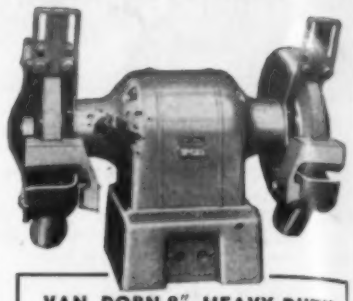
TRY NoDRIP—Apply NoDrip to a small area, compare the results with uncovered portions

Send for NoDrip Handbook

J. W. MORTELL CO.
526 BURCH ST. KANKAKEE, ILL.

For more details circle NED-8708 on enclosed inquiry slip

Van Dorn Power Means FASTER BENCH GRINDING!



VAN DORN 8" HEAVY-DUTY BENCH GRINDER $105.00
also 6" Standard, 6" Heavy-Duty and 10" models.

Take a Van Dorn-Built "constant speed" motor that's *tailor-made* for the tool it drives and you have the principal reason why Van Dorn Bench Grinders outperform all others . . . in grinding, tool sharpening, wire brushing and buffing! Your choice of four models . . . from ¼ to 1 h.p., 6" to 10" wheel diameter. See your nearby Van Dorn Distributor for full details. Write for free catalog to: The Van Dorn Electric Tool Co., 762 Joppa Road, Towson 4, Md.

For Power Specify **"Van Dorn"** Portable Electric **TOOLS** (Div. of Black & Decker Mfg. Co.)

For more details circle NED-8709 on enclosed inquiry slip

Not Necessary to "Spot" Railroad Cars With this A-F Conveyor System!

The slow, antiquated operation of "spotting" railroad cars at definite locations is no longer necessary in this modern refinery! A-F Traveling Deflectors may be locked into the Live Roller Conveying System *at any position* along the shipping platform to divert drums into the scheduled cars. A-F Slides may also be locked into the Overhead Belt Conveyor to perform a similar function . . . For latest handling methods, write today.

THE ALVEY-FERGUSON COMPANY
40 Disney Street Established 1901 Cincinnati 9, Ohio
Offices or Representatives in Principal Cities—Coast to Coast

CONVEYING EQUIPMENT
Alvey-Ferguson
WASHING MACHINES FOR INDUSTRY

For more details circle NED-8710 on enclosed inquiry slip

. . . a Really TOUGH Patch

RUGGEDWEAR CAN TAKE A POUNDING

for Busy Factory Floors

Avoid accidents! Prevent costly delays. Repair holes, cracks, broken places in concrete floors, or resurface an entire area with the durable RUGGEDWEAR RESURFACER. No chopping or chipping required. Merely sweep out spot to be repaired—mix the material—trowel it on. Holds solid and tight right up to irregular edge of old concrete. Used indoors or out. Dries fast.

MAIL COUPON for FREE TRIAL OFFER and HAND BOOK OF BUILDING MAINTE

FLEXROCK COMPANY Offices in Principal Cities
3603 Filbert St., Philadelphia 4, Pa.
Please send me complete RUGGEDWEAR information, details of TRIAL ORDER PLAN and HAN BOOK OF BUILDING MAINTENANCE—no ligation. (Clip and attach Coupon to Co. letterh
Name .....
Company .....
Address .....

For more details circle NED-8711